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AMERICAN
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A JOURNAL OF PRACTICE
AND SCIENCE

ISSUED ON THE 10th AND 25th OF THE MONTH

EDITOR

ROBERT G. ECCLES, M.D.

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THE BULLETIN IN 1897

THE AMERICAN MEDICO-SURGICAL BULLETIN, in beginning this, its tenth year, comes before its many readers in a somewhat new form. We have no doubt but that as it now appears, it will not only please our present host of subscribers, but likewise win many more new ones. Never before in medical journalism has so much choice mental pabulum been offered to the profession at so low a price. A glance at the contents of our present issue will convince all that it reflects in the most perfect manner possible the medical thought and scientific medical work of the present hour as no other journal has done or attempted to do.

Beginning with this number, our editorial pages will contain, in each issue, expressions of the most recent constructive thought in medical science, suggestions for the reform of abuses in practice that injure the general practitioner, references to the most important new discoveries influencing the progress of medicine, or matters of general interest to all our readers. We intend to make the BULLETIN in the future, as it has been in the past,

> "A champion brave, alert and strong
> To aid the right, oppose the wrong."

We hope in doing this to merit the confidence which the profession will surely bestow upon us so long as we are in the right. In a policy that is aggressive, we will aim at tempering every utterance with charity and gentleness. No warfare will be waged against men or societies, but only against bad principles.

Our department devoted to cullings from the leading editorials of our American contemporaries, will show our readers what their professional brethren are thinking and talking about all over this broad land. The editors are in close touch with the ideas and sentiments of their subscribers. Where they happen not to be, natural selection usually adjusts the matter in time. Those who do not agree with them on such important issues as they may raise, generally drop their subscriptions and gravitate to journals that suit them better. Thus it is that a journal reflects fairly well the sentiments of its readers as well as of the editor. As we desire to do full justice to all sides on every great question that may arise, it is clear that we cannot hold ourselves responsible for all ideas these editorial cullings may contain. They will be the sentiments of the journal to which credit is given, and not our own. In selecting them we shall always seek to choose such as fairly represent the best products from the journals quoted. In this way our readers can likewise form some idea of the character and ability displayed in the management of all the principal medical journals of our country.

Our original abstracts will be drawn from every available source throughout the civilized world. They will give our American readers, in concentrated form, the latest and best discoveries and thoughts of American, British, German, French, Swedish, Norwegian, Danish, Italian, Portuguese, Swiss, Spanish, Russian, Japanese and Turkish investigators. Our selected articles will likewise be the very best that come before us in the course of our reading, and will usually embody some new investigations or some new line of constructive thought likely to advance medical science or benefit medical men. The present number will give the critical reader a fair idea of our aims and future purpose in this direction.

The news we give will be from all parts of the earth, condensed and confined to important features. We will waste no pages with society reports that are seldom or never read, but we will give the essence of such reports where there is anything that all or a great number of medical men are interested in. Our book reviews will aim at directing our readers to books worth having, and away from those that are of little or no merit. Occasionally we will insert special monographs on topics of interest like that which accompanies the present issue, as found on page 49.

In all directions we will seek to be impartial, just and practical, leaving our readers to be the final judges of our success in executing this our high ideal.

THE RELATIVITY OF DISEASE

THE philosophical doctrine of the relativity of truth in general is almost universally accepted by good thinkers. The relativity of even material things is asserted by very many scientific men. According to this doctrine, every truth is born of its relations to other truths. Strip it of these and it at once becomes non-existent. If we take, for instance, weight, we behold that its existence depends both quantitatively and qualitatively upon its relations to matter and space. A small piece of metal weighing a pound on the earth will be much less than a pound on the moon and much more than a pound on the sun. Evenly poised within a circle of gravitating bodies, its weight would disappear. Removed indefinitely into the depth of space, far away from other bodies, and again there would gradually cease to be weight. Color, sound, taste, and other qualities of matter, can be shown in the same manner to be but attributes of certain time and space relationships.

In the crude beginnings of thought, it is natural for man to look upon all qualities as entities and all principles as independent of the facts that give such principles validity. Indeed, it is hard for even modern civilized man to shake off this tendency of thought. The attempts at transmutation made by the alchemists were merely attempts at transferring the color of gold, the smoothness of gold, and the other qualities of gold, to iron or lead. They thought that each of these qualities was a real existence, that, like a coat, could be carried from one body to another.

If we analyze the popular conception of a disease, we will discover that even intelligent men consider it a sort of entity. It is true that they have got rid of the ancient crude form of this way of thinking. They no longer believe that each particular form of disease is a form of obsession; but they do not deviate very far from this crude idea. They do think that it is a something that can be lifted from one man and placed upon another. Their idea of the matter is almost precisely the same as that of the alchemist concerning the yellow of gold.

This sort of thinking also lingers to some extent among medical men. Instead of ghosts or qualities, they have bacteria.

They unconsciously mix up the scientific facts of bacteriology with the lingering echoes of demonology. They look upon bacteria not as part of a series of relationships constituting the nexus of disease, but as being the disease itself. Even the men who have done so much for the advancement of scientific bacteriology, and given such an impetus to modern medicine, have not always been able to lay aside this wholly unscientific trend of thought. They have gone into the hunt for the bacterium of pneumonia, the bacterium of hepatitis and the bacterium of nephritis. Sometimes this kind of hunting has led to truth, and thus corrected itself. We have reasons for believing that even Koch, when he began his hunt for the tubercle bacillus, was imbued with the notion that he was going to find the germ of phthisis. To the world, at that time, phthisis was a distinct disease, wholly unlike any other and having a cause peculiarly its own. Even scientific observers thought that to transfer that cause to the blood of a man was to give phthisis, and nothing but phthisis, to that man. Once having discovered the facts in the case, they gave up this crude conception, and a more scientific one took its place. Now we know that the tubercle bacilli can produce many of the so-called diseases listed a generation ago. It can invade the lungs and give us one, in the bones another, in the brain still another, in the skin, liver, and kidneys still others. Thus it multiplies the list of diseases that it causes, each one of which is unlike the other in all prominent symptoms. One would have thought that such a lesson as this would have opened the eyes of the world to the fact that disease, like everything else in this world, is the product of a series of relations and not an entity. But it did not. At the last great invasion of influenza, some soberly believed that the various forms it assumed were various distinct diseases due to some other kinds of germs. They could not see that this was only a repetition of the lesson we had already received from tuberculosis.

THE LESSON OF BACTERIOLOGY

THE tissues of the human body constitute a field. The bacteria are the plants. The distribution is seldom twice alike. Sometimes one part of this field has many plants, and another part few. At another time the distribution is reversed, so that the part that before had few now has many. At one time they may enter the body by water, at another through food, and at still another breathed in from air. At one time the conditions are most favorable for them to multiply in one part of the body, and at another time another part. As is the distribution, so is the disease. The symptoms are in direct relationship with the part of the body most completely invaded. Thus it is that the same exciting cause of disease may produce a wholly different series of symptoms, and each series be classed as a different disease. This being so, why may not the converse be equally true? Why may not different exciting causes produce similar groups of symptoms, to be called by the same disease name? Mimicry is very common in biology. Plants and animals of wholly different origin frequently resemble each other. Social results that resemble each other have again and again been traced to wholly different causes. Physical phenomena of a multitude of kinds are known to often resemble one another, although due to wholly unlike causes. Who can say that two, three, four or five very different forms of pathogenic bacteria may not cause pneumonia? Who can say that there are not as many types of the group of symptoms we call diphtheria? Indeed, the indications are all at present pointing in this very direction. Several forms of bacteria have been given by experienced bacteriologists as causing pneumonia. The same is true of diphtheria. It was for a time supposed that in the Klebs-Loeffler bacillus we had the true and only cause of the genuine fatal form of diphtheria. This is now strenuously denied by good authority. The cases having a different form were pronounced pseudo-diphtheria, and said to be always mild. Now we discover that both types have fatal cases, and both mild ones.

May it not be that any form capable of developing in the lungs, and setting up acute inflammatory conditions there, may produce pneumonia? May it not be that any form capable of developing in the kidneys, and producing inflammation of that organ, may cause nephritis? Who can predict how many kinds of seeds a given soil can nourish to perfect fruition? How do we know that there are not many kinds of bacteria capable of developing typhoid fever? How do we know that any one of these may not be capable of producing a dozen groups of symptoms to which we give a dozen different names? These are serious and important questions, and should not be passed over lightly. If the doctrine of relativity applies to disease as it does to all other known subjects of study, then the field for research is a very wide one. If this contention is true, we are yet very far from a scientific etiology, even in zymotic diseases, and true diagnosis is an immensely more complex affair than we have, up to the present, believed it to be. Bacteriology is but an infant science yet. Its last word is far from having been spoken. It has given us many valuable hints, but nothing more. We are too impatient with its results, and want to make too much of them. Even the matter of degrees of infection may have much to do with the form a disease shall assume. We know from experience that every form of disease exists in various degrees of virulence. A careful watcher during an epidemic of scarlet fever, can find it in many degrees and of various types. Sometimes there is no trace of redness, and only a slight headache with a strawberry-tipped tongue and slight nausea. No one would suspect the relationship did they not know its origin and watch its development. At other times it comes in virulent form, with livid red or even purplish red skin. So far apart are the extremes that no one would *a priori* think of giving them a common name, though well aware of their common cause. There are all degrees between the extremes, and the amount of desquamation varies from nothing to perfect sloughing. From a bacteriological standpoint there are several possible explanations of this. The number of germs present at the inception of the disease may have varied from a mere trace in the mild type to a relatively large dose in the more severe form. The germs themselves may have had varying degrees of vital power, causing a stronger or weaker type of the disease in the direct ratios of their power. The resistance of the various individuals taking the germs may have varied from perfect immunity, or slight immunity, to very little resisting power. It is evident, too, that these causes may in varying degrees combine together to produce this result. With changes in the relations we have changes in the diseases.

THE RELATIVITY OF VIRULENCE

IF we turn to the germs themselves, we discover the same law of relations determining character. Virulent pathogenic micro-organisms can be so trained that their virulence may in whole or in part disappear. This, therefore, means that changed conditions in the development of these bodies may make them harmless, slightly harmful, or exceedingly harmful.

The same microbes raised in one way may be dangerous disease producers; while raised in a different manner they may be quite harmless. This means that, for anything we know to the contrary, even very susceptible people may swallow or breathe with impunity any and every sort of contagious disease germs, if only a change of relations has occurred of sufficient power to alter their characteristics. Modification by environment is an established fact throughout animated nature; but the power to markedly modify in a brief time becomes less the higher we ascend in the scale of development. Among microbes this power is at its highest. They are among the lowest of organized things, and can change in a most marked degree within comparatively short periods of time. Bacteriologists cannot as yet positively say that one form of pathogenic germ cannot change into another wholly different form. While we have absolutely no reason for believing that the micro-organism that produces scarlet fever can be changed into the micro-organism that produces typhoid fever, yet no one can positively assert such a change to be impossible. We simply do not know. It stands just where transmutation does. We may never be able to command either time enough or force enough of the proper character to bring about any such result. The mere fact of our ignorance at this point shows how impossible it is for us at present to know all that should be known about disease. We can see, however, by aid of the facts already in our possession, that any given disease must be due to a concatenation of causes, and not to one cause. No matter how loyal our allegiance to the germ theory of disease may be, we must admit that not the germ itself, but the relations within the structure of the germ as related to the relations within the body of the patient, constitute the thing we call disease. It is the outgrowth of a conspiracy of conditions within the patient failing to harmonize with a conspiracy of conditions within the microbe. Every disease, then, is simply a bundle of relations, and every cure an alteration of these relations. The production of the relations is the production of the disease, without regard to how these relations were established. There may be only one way of establishing any given set of such relations; but it is not at all unlikely that there may often be many ways of accomplishing the same result. To settle this question positively will require many years of bacteriological progress. It opens up a wide field for work, and one that humanity is deeply interested in. It shows that the hunting for the germs of any particular form of disease must, as a rule, end in disappointment. Even when one is found that seems to answer the requirements, it is unscientific for the investigators to rest with such a discovery. They should go on with their work in the same field, and see if there are not other cases of the same disease caused by wholly different germs. Nor should they stop even here. They may, on close observation of other diseases, discover that their favorite germ has caused these too. In some instances, if not all, they may find that not the germ itself, but some toxalbumin, ptomaine, or other toxic body produced by the germ, is the direct instigator of the disease. Now, if plants as wide apart as Spirea, Betula and Gaultheria can in common produce such a complex and specifically characterized organic molecule as methyl salicylate, why should not more than one kind of those pathogenic microbes be able to produce the special poison of any given disease?

View the matter from whatever standpoint we choose, the probabilities all point in the same direction and emphasize the doctrine of the relativity of disease.

AMONG THE EDITORS

THE PASSING OF THE PHYSICIAN

It needs no prophetic eye to see the extinction awaiting the practicing physician, using the term in contradistinction to the hospital or dispensary physician. Surgeons, aside from professors and hospital and dispensary surgeons, are already extinct. The drag-nets of ambulance, dispensary, clinic, and hospital, have secured such a "corner" in surgery that no man outside the chosen few can make a living.

What has occurred in surgery is now occurring in medicine. No patient able to walk or ride in a cab need pay a cent for medicine or treatment. If slightly hesitating on the brink, the mælstrom of dispensary, clinic, or hospital, will suck him into its hungry and capacious maw, from which nothing is ever vomited back but statistics. If too sick to walk or ride in a cab, an ambulance waits to carry him tenderly, and without shock or exposure, to sumptuous hospital apartments, built possibly by misused funds donated to the hospital for charity. Ambulating and portable sick people being thus provided for, there remains only a small class of the desperately sick whose removal might mean death. To provide for these cases it is only necessary to slightly enlarge the staff of out-door visiting physicians, and presto! the thing is done! And the weary and struggling outside general practitioner can go home, shut himself up with his emaciated wife and starving children, and turn on the unlighted gas.—*The Medical News.*

THE PHILADELPHIA MEETING OF THE AMERICAN MEDICAL ASSOCIATION

The fact that the American Medical Association will hold its next annual meeting in Philadelphia, thereby celebrating the semi-centennial of its existence, is of interest not only to those members of the profession who already belong to the association, but to those, and we believe there are many, who are desirous of entering its ranks and thereby aid in maintaining the professional standard which has so long and so successfully waved over the medical profession of this country. Fifty years next spring, under the presidency of Dr. Jonathan Knight, of Connecticut, the first great medical convention of the United States met in Philadelphia and appointed as its secretary, Dr. Alfred Stillé, of that city. It also appointed as chairman of the Committee on Scientific Papers, Dr. Oliver Wendell Holmes, and under the guidance of these men, well known in medicine and literature, the association gained a vitality which it has never lost. It is interesting to note that at the Philadelphia meeting both Dr. Nathan Smith Davis, the organizer, and Dr. Alfred Stillé, the secretary, of fifty years ago, will probably be present, as both gentlemen, notwithstanding their advanced years, are both in unusually good health. Aside, therefore, from the interest which centers around the semi-centennial gathering, the members who attend this meeting will have an opportunity of meeting these standard-bearers and of linking together the past and the present in American medicine. This interest is increased when it is remembered that during the sixty years in which Dr. Alfred Stillé has been a Doctor of Medicine, he has seen more wonderful changes take place in the character of medical science than has ever been seen in a corresponding period of sixty years before our time.—*Journal of the American Medical Association.*

IMPRISONMENT FOR LIFE

The altogether erroneous ideas which seem to prevail in civilized communities of the infection and even contagion of leprosy, which justifies the banishment of the victim from society, from home, to be imprisoned for life, a barbarous relic of the early days of the world, should have no place in any civilized community in the nineteenth century. * * *

These facts will be brought to the attention of the Congress on Leprosy, soon to meet in London, composed of representatives from most of the nations of the civilized world. The facts presented and the discussions of this learned body, will, without doubt, lead to important results in the prevention, suppression, treatment and possible cure of a disease which has for so long a time been looked upon as incurable. In the mean time, we respectfully suggest to our Board of Health to make careful inquiry whether the protection of the public health and the interests of humanity require the continuance of the leper hospital on North Brother Island under its present exclusive prison rules. Might it not be wise to remove this handful of leprous men to some of the other charity hospitals, where they might feel that they are not of necessity condemned to death, bringing the all important factor of hope to their aid; or at least take off some of the prison restrictions under which they now suffer.—*New York Medical Times.*

MEDICAL FEES AND MULTI-MILLIONAIRES

It is said that since John W. Mackay refused to pay the bill of the physicians who extracted the assassin's bullet from his body, amounting to $12,500, he has paid an attorney bill of $26,160, for taking a will of which he was executor through the probate court —an automatic procedure requiring neither skill, great ability, learning, nor judgment.

The California press was unanimous in condemning the physicians for rendering so large a bill, and in congratulating the lawyer upon receiving a handsome fee. We have only ourselves to thank for the way the public look upon these matters. Lawyers often think better of us than we have thought of ourselves, to judge from the excitement which is occasioned when a physician dares assert his rightful claims.—*Medical Record,* December 5, 1896.

A GRAVE RESPONSIBILITY

Perhaps no portion of the profession is taxed more for decisions in moral questions than are the women of the profession. Realizing the axiom that "to the pure all things are pure," many young men and young women present themselves for counsel, and here is where the young woman is disturbed. It is difficult for her to realize that she is a doctor as well as a lady, and that in the exigency she must wear the double gown—but if she can keep this in mind, all will be well. By maintaining a purely professional attitude, never for a moment laying it aside, she will construct around herself a wall of reserve that cannot be shocked nor sundered.—*Woman's Medical Journal.*

THE STRUGGLE FOR LIFE

The discoveries of Pasteur, Koch, and others who have devoted themselves to the development of the science of bacteriology, have brought us face to face with the fact that man is constantly surrounded by multitudes of minute and potent enemies to life, and that he is only able to prolong his existence by the maintenance of a constant warfare. How this struggle for life is carried on has been very clearly shown by Metchnikoff and others who have penetrated deeply into the mysteries of cell life, and have actually been eye-witnesses to the combat between the living animal cells and the assailing microbes. To one who has been acquainted with the properties of microbes, with the terrific virulence which they sometimes possess, and the almost incredible potency of the poisons produced by them, it is indeed a marvel that any human beings or animal forms of any sort are able to exist. A deeper study of the subject, however, reveals to us the fact that, while man is thus surrounded by the most deadly and potent enemies of life, he is, nevertheless, by nature —so long as he conforms perfectly to the laws of health, thereby retaining a state of physical soundness—able successfully to resist the attacks of all known germs—*Modern Medicine.*

THE DIAGNOSIS OF TYPHOID FEVER FROM A DROP OF BLOOD

It is claimed by Pfeiffer, of Berlin, and Widal, of Paris, that the serum obtained from the blood of a typhoid fever patient so acts upon pure bouillon cultures of the typhoid bacillus that the active motion, which is characteristic of that micro-organism in culture fluids, is abolished and an agglutination of the bacilli into large groups takes place. Dr. Wyatt Johnston, Bacteriologist of the Provincial Board of Health of Ontario, claims that the fluid obtained by moistening with water a dried drop of blood produces the same reaction in a satisfactory manner even after it has been dried for several days. The same reaction does not take place with a drop of blood obtained from a person in health. At the suggestion of Surgeon-General Sternberg, Dr. Walter Reed, United States Army, has conducted experiments in the bacteriological laboratory of the Army Medical Museum, Washington, D. C., with favorable results. As a consequence, Surgeon-General Sternberg has called upon army surgeons in charge of post-hospitals to send to the laboratory at Washington samples of blood from fever cases in which the diagnosis is uncertain, with a complete clinical record of each case.—*Medical Review.*

THE ROENTGEN RAYS IN OCULAR THERAPEUTICS

The unexpected result of the application of the Roentgen X-rays of relieving pain and reducing inflammation in the effort to detect the presence and location of a foreign body in the eye, is worthy of a passing notice. The man had complained of severe pain in the ball, incapacitating him from work and causing sleepless nights, and had earnestly requested relief. The experiments undertaken by Dr. Stern in the Polyclinic laboratory were eminently successful in detecting the presence of a piece of metal in the vitreous. Coincidently the pain was relieved and the man could both work and sleep. Whether this happy result was only a coincidence or a real effect of the rays can not be positively asserted, nor can its application be general until further experiments on a sufficiently large scale demonstrate the truth or falsity of the statement that the X-rays are a therapeutic agent.—*Philadelphia Polyclinic.*

HOW ABOUT ME?

The stupendous increase of prenatal infant destruction in these later days is the more shocking because its perpetrators are found so largely among the reputable members of the profession. This statement, which excites our own protest as we write it, will doubtless excite yours as you read it; yet all of us believe it to be true.

Regardless of moral conviction, the average man of good repute among his fellows is slow to bring himself to a violation of authoritative statutes.

Whatever the nature of the act, the temptation leading up to its commission will, on ultimate analysis, usually be found to contain an unselfish interest in someone else.

Specious arguments in favor of repetitions, however, are self-formulating; until at last, no longer needed as an incentive to questionable conduct, unselfishness is overshadowed by the demands of personal aggrandizement, which now shrewdly evades or defies the law, once violated with regret. —*Southern California Practitioner.*

A MEDICAL NEED IN CINCINNATI

The recent trial of two of the reputable physicians in Cincinnati for malpractice has developed a situation that calls for a special organization, which shall have for its purpose a resistance of such reprehensible measures.

Think of the iniquity of this infamous law suit! First of all, the physician gave his precious time, skill and attention in the preserving of the life of an old woman—gave freely and ungrudgingly that her life might be spared for a few years. Compensation was mythical and out of sight, but through thirty years of professional labors, in season and out of season, twenty-four hours every day during all those thirty years, Sundays included, the doctor has, through economy, saved a few thousand dollars, and they were whacked up on and placed in jeopardy as the issue in this villainous law suit. Attorneys' fees had to be paid by him for his defense, and all without recourse for indemnity. Such things chill and freeze the blood in the bodies of the men who do more for an alleviation of the woes, miseries and sufferings of the poor than all others put together. Such possibilities are enough to cause any doctor to violently fracture one of the commandments.—*Cincinnati Lancet Clinic.*

THE THYROID TREATMENT OF STUNTED GROWTH

Before the Versammlung deutscher Naturforscher und Aerzte held in Frankfort-on-the-Main last September, Dr. Johann Julius Schmidt, of Frankfort, read an essay on this subject, which he had briefly touched upon a short time before in a discussion at the Wiesbaden Congress für innere Medicin. Dr. Schmidt's paper is published in the

Therapeutische Wochenschrift for November 15th. After referring to Virchow's observation, in 1883, on the relationship of rickets, cretinism, and dwarfing without any disease of the thyroid gland being recognized as at the bottom of the relationship, he goes on to say that the thyroid probably plays an important part in simple stunting of the growth, as well as in cretinism and infantile myxœdema. * * *

As regards clinical observations, Dr. Schmidt gives brief notes of four cases in which he has resorted to thyroid treatment to overcome dwarfing in children. * * *

These observations seem to warrant the expectation of our overcoming an abnormal condition that has always been looked upon as beyond the reach of therapeutics.—*New York Medical Journal.*

THE PROSPECTS OF PROPHYLACTIC INOCULATION AGAINST TYPHOID FEVER

In view of these investigations the probability seems great that the problem of a successful prophylactic inoculation against typhoid fever will soon be finally solved. It appears, however, that such an immunization will probably be of limited utility, excepting under unusual circumstances, as, for instance, in case of epidemics in large armies in times of war, when the outbreak of such epidemics is a most serious matter, implying the loss, as history shows, of a large number of lives.

The cure of typhoid fever by similar means is, on the other hand, an entirely different matter and, with the present light upon the question, a Utopian wish. In order to explain why this is so, it is necessary to enter somewhat into the nature of "antibodies" and antitoxins in general and into that of the antibodies of typhoid fever in particular. All the antibodies that are known at the present time are those of cholera and typhoid fever. They have been discovered by Pfeiffer, of Berlin, who has spent about three years in the investigation of their nature and other questions that have a more or less direct bearing upon the subject. Pfeiffer has shown that the antibodies of cholera and typhoid fever consist of two different substances. One of these substances kills the respective bacteria directly in the test-tube, but it loses this bactericidal property when the serum is heated (in case of cholera to 60° Cent.); while the other does not possess a direct bactericidal action, but this action is developed by its ferment-like activity in the inoculated body. The latter activity is displayed by the serum of immunized animals before and after it has been deprived of its direct bactericidal property by the exposure to a certain degree of heat. The evidence is overwhelming that, as Pfeiffer has also pointed out, antibodies as well as antitoxins are ferments and that their bactericidal, respectively antitoxic, action depends upon a reaction of the *healthy* tissues of the body to a kind of catalytic action of this ferment. By the acceptation of this hypothesis—for it is, after all, only a hypothesis—the nature of antitoxins and antibodies becomes intelligible. Nor can their nature be so satisfactorily explained by any other theory that has so far been offered. The analogon of the ferment action of these substances exists in the fibrin ferment of Schmidt.— *Medical Review.*

ICHTHYOL

Many remedies of various degrees of antiseptic power have been brought forward with claims that have not been verified when subjected to the test of actual clinical applications under all the conditions met with in daily practice. Notwithstanding that some of these products are on no higher a plane than many of our own medical nostrums, and are as flagrantly misrepresented in the assertion of their medicinal properties and value, there are others that are worthy additions to our materia medica, and a few that are of special merit. Of the latter class, the article under notice is one of the most meritorious.

A striking evidence of the efficacy of ichthyol followed its application to a serious erysipelatous inflammation of the arm of the editor's daughter. Owing to conditions sometimes present in cases of this kind, high inflammatory action followed the scarification of the arm in the operation of vaccination.

By painting the arm with ichthyol, the alarming symptoms were allayed in a few hours, and by the end of the day normal readhesion had practically taken place.—*Medical Summary.*

LEADING PAPERS

A NEW METHOD FOR THE RADICAL CURE OF INGUINAL HERNIA WITHOUT BURIED SUTURES

By DR. SIMON DUPLAY,
Professor of Clinical Surgery at the Medical Faculty of Paris; Surgeon to the Paris Hospitals
and DR. MAURICE CAZIN,
Chef de clinique chirurgicale at the Medical Faculty of Paris

THERE is hardly a surgeon—even among those who boast of being able to operate under completely aseptic conditions—who has not been annoyed by remote ill-effects from the elimination of a buried silk suture, in the radical cure of hernia, for instance. A patient leaves the hospital after having undergone a perfectly aseptic operation and recovered under excellent conditions, without anything to suggest an ultimate complication; a few weeks or months elapse, and then, probably as a result of an ephemeral general infection of some kind, or of a local infection which so far has remained latent, an abscess develops around one of the sutures buried in the tissues, which have not been absorbed and continue to form a *locus minoris resistantiae*, so to speak, at the spot where they have been applied.

Having on several occasions met with such accidents in the case of patients operated upon at the Clinique of the Hôtel-Dieu or in other services where the asepsis of the material employed cannot be suspected, we have endeavored to do away completely with buried sutures in the radical cure of inguinal and femoral hernia. For six months we have employed in these operations at the Hôtel-Dieu a method by which no foreign body of any kind is left in the wound. Not only have all the patients operated upon, twenty in number, made an excellent recovery without the slightest untoward accident, but in the majority, whom we have recently seen again, within from six weeks to six months after the operation, recovery had been perfectly maintained, so that there appears to be no further danger of any post-operative complication.

In order to completely do away with buried sutures, we must abandon the usual method of operation, which comprises: (1) ligature of the hernial sac by one of the ordinary means; (2) suture or, more correctly, approximation with the aid of buried sutures, of the pillars; (3) ligature of the vessels and deep sutures of the soft parts, which are employed by certain surgeons in performing the radical cure of hernia. It is needless to state that we do not refer to ligatures, necessitated by resection of a portion of the herniated omentum, for silk sutures left in the peritoneal cavity do not give rise to the remote ill-effects, sometimes determined by sutures buried in the abdominal wall.

Ligature of the arterioles may be easily avoided by twisting, which never fails to completely arrest the hæmorrhage.

With regard to the suture of the soft parts, more particularly approximation of the pillars by means of buried sutures, we are of opinion that, in the majority of cases, the object aimed at may be attained by the use of silver-wire sutures, properly placed and comprising at each margin of the wound as large a quantity as possible of the soft parts. The coaptation of the tissues under such conditions is excellent, and, when the sutures are removed, the cicatrix of the inguinal ring is dense and firm, as we have found in all our patients. It is only in the comparatively small number of cases in which a good result can be obtained only by Bassini's method that it is necessary to employ a deep row of buried sutures.

In the majority of cases, therefore, a perfectly firm cicatrix is obtained with two or three deep silver-wire sutures, including the pillars, and four or five others, comprising all the soft parts which can be gathered up in front of the inguinal ring, just as well as with deep buried sutures.

The novelty, however, of the method of operation to which we wish to call attention, consists principally in the manner of closing the sac. We have in fact succeeded in doing away with placing a silk ligature on the hernial sac, employing instead the following method, from which we have invariably, in all patients operated upon, obtained most satisfactory results.

The cavity of the sac having been opened and examined with the finger, the existing adhesions are destroyed, and a portion of the herniated omentum is resected if necessary, after which the sac is completely dissected out with the greatest care, the peritoneal layer alone being taken. This dissection is pushed until parts of the peritoneum normally situated 2 or 3 centimetres above the inguinal ring can be pulled out.

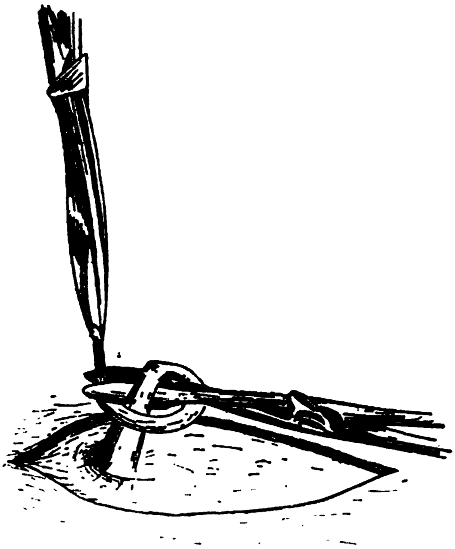

Fig. 1

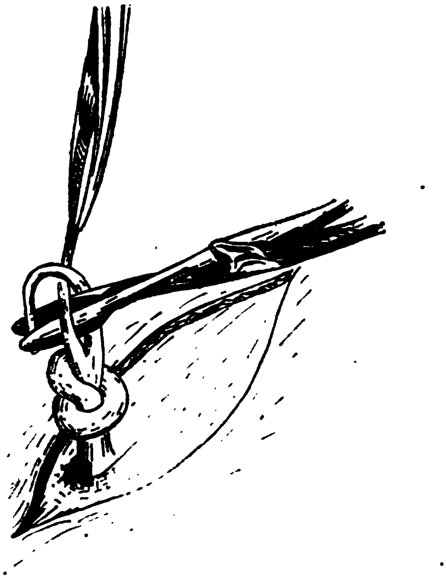

Fig. 2

An assistant then takes hold of the sac at its base, and the operator ties all of this sac into a knot (Fig. 1), which is pushed up as far as possible before it is drawn tight. To prevent this knot from becoming untied, if the sac is sufficiently long, another, and even a third, similar knot is tied, one after the other, or a double knot is made, though this is less satisfactory from the point of view of firmness; then the entire remainder of the sac is split in two, and the strips thus obtained are tied together once or twice (Fig. 2). Lastly, in order to insure absolute firmness, a hole may be made in one of these strips and the other passed through it (Fig. 3), so as to prevent all possibility of the knot slipping; this manœuvre, moreover, may be repeated two or three times (Fig.

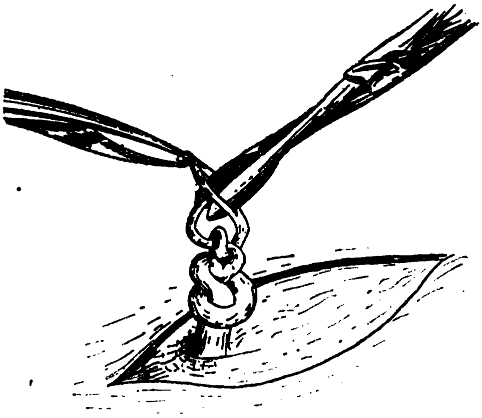

Fig. 3

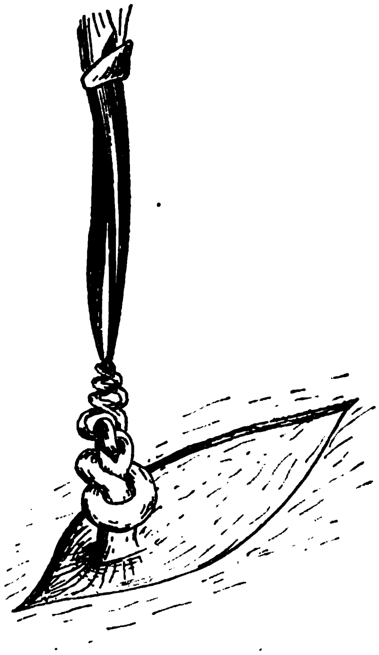

Fig. 4

4), if the strips are sufficiently long. When the sac is short, it is frequently impossible to tie more than one knot with the entire sac; in this case the knot is secured, as stated, by splitting the remainder of the sac in two strips, which are then tied together once or twice (Figs. 2 and 3).

All these manœuvres, which are executed in less time than it takes to describe them, are carried out, not with the fingers, which frequently would not be possible, but with the aid of forceps, when they are executed with ease, as will be seen from the accompanying drawings, for which we are indebted to Mr. Ombredanne, our house-surgeon.

The last knot having been tied, the sac is released, when it disappears at once in the abdominal cavity, exactly as when the sac has been resected in the usual operation. In all the patients operated upon we found that the highest point of the knot farthest away was invariably situated at least 3 or 4 centimetres above the internal inguinal ring.

It then only remains to finish the operation in the usual way, except that silver-wire sutures are employed, as stated above.

In cases of old-standing herniæ, the sac may be so thick as to preclude its being tied in its entirety. In two cases of this kind we were obliged to give this up and split the entire sac in two at once, tying the two ends together several times in the manner indicated in Figs. 2 and 3; in one case, we even split the sac into four equal parts, and tied them together two and two, the results thus obtained being very good.

The radical cure of hernia without buried sutures has already been attempted by Dr. Poullet, who has devised for this purpose a method of tendinous autoplasty (*The Medical Week*, 1895, page 553.) Our procedure, which differs entirely from that of Dr. Poullet, is much simpler, and we are of opinion that, in the majority of cases, it should be preferred to the usual method of ligature of the sac, because it does away entirely with the possibility of ill-effects ultimately resulting from the presence of buried sutures in the parietal tissues.—*The Medical Week.*

OBSERVATIONS ON THE SERUM REACTION IN TYPHOID FEVER AND EXPERIMENTAL CHOLERA BY THE DRIED BLOOD METHOD *

By
WYATT JOHNSTON, M. D., of Montreal
and
D. D. McTAGGART, M. D., of Montreal

THE METHOD AND ITS APPLICATION

We wish to record the result of 290 blood examinations made by the method already described by one of us[1]. Instead of employing fluid blood serum as recommended by Widal, a large drop of blood is allowed to dry upon a folded piece of sterilized non-absorbent paper, and is examined by moistening with a drop of sterilized water, mixing the solutions with a drop of pure broth culture of the typhoid bacillus, and examining the mixture as a hanging drop preparation under a dry lens of medium power. Instead of using the hollow-ground glass slide one may employ the simple old method suggested to us by Dr. Adami, of cutting a hole out of the center of a piece of thick blotting paper, laying this moistened on an ordinary slide, and inverting the cover glass.

This method gave good results for diagnostic purposes. The preliminary drying of the blood did not appear to interfere with the production of the reaction, and enabled the sample to be taken more easily, and transmitted more readily, especially when received from a distance. Several of our samples came by mail from points from 500 to 700 miles distant. There is always difficulty in sending fluids by mail. There is none in forwarding an ordinary envelope containing a slip of paper.

A gratuitous public service of serum diagnosis was introduced last September by the Board of Health in the Province of Quebec. Suitable outfits for taking samples, consisting of pieces of sterilized paper enclosed in envelopes with printed directions and blank spaces for information to be filled in, have been placed at those depôts (chemists' shops) which already keep and supply outfits for dipththeria diagnosis. In case a negative result is obtained, and the suspicions of typhoid continue, a glass tube is furnished in which a duplicate sample of fresh blood is also required to be sent.

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* From the Laboratories of the Board of Health of the Province of Quebec and the Montreal General Hospital.

[1] Wyatt Johnson, *New York Medical Journal*, October 31, 1896.

The dried blood method was selected more on account of the great facility it afforded for the collection and transmission by post to the laboratory of samples in proper condition for examination, than in the expectation of any greater delicacy over the fresh serum method as used in ordinary hospital work. In fact, we had anticipated a somewhat less delicate reaction by the dried blood method. Widal[2] has recorded the results of five blood examinations in which, for comparison, typhoid blood and typhoid serum were dried for forty-eight hours on sponges, and examined at the end of that time. The typhoid serum gave the reaction typically when in a dilution of 1 to 10 with typhoid broth culture, while the dried blood also gave the reaction somewhat less promptly in a dilution of 1 to 5. This shows under these conditions a lesser delicacy with dried blood than dried serum, but the fact remains that, according to Widal, a positive reaction was obtained by the dried blood in all 5 cases. Previous to learning of these experiments of Widal, we had used with success absorbent cotton-wool swabs used in our diphtheria outfits; but we discarded these, and adopted the collections of the blood on non-absorbent surfaces as being more efficient.

We have not yet fully decided as to the relative merits of the dry and moist methods of collection, which is a matter depending chiefly on the conditions under which the samples have to be transmitted and collected. We anticipated that the dried blood would be less delicate than the fresh serum, and that though the positive results would be equally reliable in either case, the negative would have less weight. On the other hand, with the fluid method the after-growth of contaminating bacteria during transmission might obscure a positive reaction if these were motile forms. Fluid samples received by us in a state of decomposition were found difficult to examine, though in some cases the heating of the sample to 65° Cent. to destroy the bacteria previous to mixing with the typhoid culture, enabled the reaction to be obtained. Decomposition does not in itself destroy the specific substance which produces the reaction, nor does a heat of 65° Cent.

In view of the assumed superior delicacy of the fresh serum, we obtained whenever possible duplicate samples of fresh and dried blood for re-examination when the first result was negative. To our surprise, when a negative result was obtained by the dry method, the result by the fluid serum was also negative, and where we obtained a positive result on re-examination with the fluid serum without exception the duplicate sample of dried blood also gave a positive result.

We would explain this apparent deviation from what one would theoretically expect, by the fact that there seems to exist in typhoid serum an intensity of reaction beyond what is ordinarily necessary for the test, so that dilutions of 1 to 10, or even 1 to 100, may be practiced in a case showing well-marked reaction, without interfering with the result. By our method we use a concentrated solution which may explain the fact that our results appear to be, so far, quite as good as those already recorded by the Widal method, although Widal and others record almost uniform success with the reaction in suitable cases.

Thoelen and Mills[3] report that by the Widal method the blood serum taken between the sixth and twenty-second days only gave the reaction six times out of twelve re-examinations, in cases which had been shown to be typhoid by the positive result of the test.

In addition to the samples obtained through the Board of Health we examined a number of hospital cases to see what percentage of positive results could be obtained under favorable conditions, and at a period of the disease when the reaction could be expected with certainity. This was the more necessary as a great many of the samples sent to the Board of Health were taken at periods prior to the fifth day, a date at which, according to the statements of the best authorities, the reaction would not yet be present.

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[2] Fernand Widal, *Semaine Médicale*, 1896, page 303.

[3] Thoelen and Mills, *La Clinique* (Brussels), September 3, 1896.

In public health laboratory work in which samples are largely obtained from obscure and doubtful cases, the proportion of positive results is less than when samples are taken indiscriminately from ordinary cases of typhoid, which form the basis of hospital observations. The effect of this circumstance upon the statistics of diphtheria has been pointed out by Welch,[4] who says: "We attribute the special differences in the reported statistics of results of different investigators, mainly to the class of cases selected for investigation. If only typical and characteristic cases of diphtheria be selected, the proportion of cases in which the diphtheria bacilli are missed will certainly be small and may be *nil*. If, however, the less characteristic cases of diphtheria, concerning which in many cases no one can be sure without a bacteriological examination, whether these are genuine diphtheria or not be included, there may be a relatively large percentage of negative results." This applies equally to typhoid.

It seems self-evident that where samples have to be taken by persons without special training, the same degree of accuracy cannot be expected as where a personal supervision can be exercised over all stages of the work by the bacteriologist himself. Thus in organizing our public diagnosis, preliminary sterilization of the skin previous to taking the sample had to be omitted, lest an accidental inclusion of some of the disinfectant might disturb the result.

As we found that about 90 per cent. of the cases could be diagnosed by means of the dry method at the first examination, we thought it better to leave the more refined and careful study of the negative result to be dealt with by re-examination, as this would only be necessary then in 10 per cent. of the cases.

We may sum up by saying that nine cases of typhoid out of ten can readily be diagnosed by the serum methods. The fresh serum might give a clearer reaction in the tenth case, but in the other nine, unless the examinations be made without delay, the fresh serum or fluid method is more likely to cause confusion than the dry blood method.

APPEARANCE OF THE REACTION

When a drop of sterilized water is added to a drop of dried typhoid blood, a solution is obtained in a minute or two which is mixed with a drop of actively motile typhoid culture, preferably not over twenty-four hours old. The motion rapidly stops, and bacilli run together into loose coils or clumps. This takes place usually in a few minutes, but sometimes may require three to four hours, or even twenty-four hours. On the other hand, the stoppage of motion may be instantaneous, and as this will delay rather than aid the formation of clumps, it is better to make a second sample, in which the serum is less concentrated. As a rule a slow reaction gives larger clumps than a quick one.

In a small portion of cases, in which the clumping proceeds in an atypical manner, a certain number of motile forms can be seen even after several hours. This partial or incomplete reaction we have met with chiefly (1) in the very early stages, (2) or late in convalescence, (3) in relapsing cases, and (4) in very mild cases. The gradual and progressive loss of the motion, and the slow but steady growth of the clumps, together with the fact that the motion never becomes considerable, enables this incomplete reaction to be distinguished without much difficulty from the brusque stoppage followed by the prompt reappearance and increased activity of motion occasionally seen when normal serum in concentrated form is mixed with a typhoid culture. Although aseptic precautions are not required when the action is complete within a few minutes, the occasional occurrence of this slowly developing reaction makes it necessary to guard as far as possible against the development of extraneous motile forms in the blood. As these might be present upon any odd piece of paper employed, special slips of non-absorbent paper are provided in well-made envelopes, which together have undergone sterilization. We sterilize our paper by exposing it, first to formaldehyde gas followed by ammonia vapor, following the method successfully used by Kinyoun[5] in sterilizing books. It is essential that the drop of blood, however small, be thick enough to form a slight crust on the paper, as an imperceptible film will not yield a strong solution when moistened.

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[4] W. H. Welch, *American Journal of Medical Science*, October, 1894

Heating the paper by holding it over the lamp will also sterilize it in a few moments. In case malaria is suspected, the sending of a thin film dried on glass as an additional sample would permit of this being examined for the plasmodium.

A capillary pipette filled with typhoid culture, and another filled with sterilized water, will suffice for as many examinations as can be made in one day, and save a great deal of manipulation of small glass ware, sterilizing in the flame, etc. Twenty specimens, on the average, can be examined in one hour by this method.

RESULTS

The following table shows the results in 143 cases which we have examined, and which were reported to us as cases of genuine or suspected typhoid. We have left out 8 cases where the sample was not received in proper condition for examination, owing to the directions not having been followed, and where no second sample was obtained for re-examination. Otherwise we have made no selection of the cases. It must be borne in mind that, in almost every case, the serum diagnosis was recorded without any knowledge of the case, except what was to be obtained from the examination of dried blood.

From the table it will be seen that the positive results were obtained in 123, or 95 per cent. of the 129 cases which there was serious reason to believe were true typhoid. If we exclude convalescent cases, and cases in which no re-examination was obtained, there remains only one case of severe fever strongly resembling typhoid, which did not react to the test made repeatedly under favorable conditions. In this case in the re-examination both the fresh serum and the dried blood were tested, and both gave negative, or at best indecisive, results. Including our hospital cases, and excluding those where the samples were not properly taken so as to leave only those where the examination was made under favorable conditions, we have a percentage of 99.4 per cent. of satisfactory or decisive results. We think, however, that 90 per cent. is as high an average as can reasonably be expected of this method for public health work.

Table of Total Cases of Suspected Typhoid

Positive results:		
Decisive on first examination	118	
Of these, complete reaction in 112; partial reaction in 6 (3 of these before the third day).		
Doubtful on first examination; decisive on second examination	5	
(Of these, 4 were first examined before sixth day).		
Total positive results:		123
Negative results. Decisive:		
Cases proved by subsequent history to be something other than typhoid, namely, meningitis, malaria, pneumonia, constipation, etc		14
Negative results remaining in doubt:		
Mild cases of typhoid first examined during convalescence	3	
Primary examination negative, clinical history typhoid, no re-examination	2	
Severe fever of typhoid type, negative results, both by Widal and the dry method (examined three times).	1	
Total negative results in cases of possible typhoid		6
Total		143

RE-EXAMINATION IN CASES WHICH HAD GIVEN A REACTION

Seventy such examinations made in 55 cases gave sixty-nine positive and one negative result when examined during fever or early in the convalescence. The reaction was nearly always complete, and typical clumping occurred, but in a few cases slight motion persisted.

CONVALESCENT CASES

These were difficult to follow up, owing to the nomadic tendency of the average hospital patient. In 17 cases examined after intervals of from three weeks to three months after their discharge, the action was present in 16 and absent in 1. These observations are too few to make them of much statistical value. We have not yet found any patients presenting a reaction at a later period than one year. These blood samples were kindly obtained for us by Dr. J. Ewan.

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[5] Kinyoun, *American Public Health Association*, September 17, 1896.

PERIOD AT WHICH REACTION APPEARS

As a rule it was well marked and prompt after the fifth day, but occasional cases were met with where it was very slow on the sixth or seventh day. After the first week it was very prompt in nearly all the cases, but varied in intensity at different periods during the course of the disease, and was more prompt in some cases than others.

In three cases the incomplete reaction mentioned above was obtained at the end of forty-eight hours from the apparent onset of the fever. The exact date of onset is a difficult matter to estimate in typhoid, but in one case the thermometer had shown absence of fever forty-eight hours before taking the sample. The case subsequently developed typical reaction and temperature. In these cases a provisional opinion was given that the case was probably typhoid, and this was justified by a subsequent appearance of the complete reaction. This point deserves further study as indicating that a probable diagnosis can be made earlier than has hitherto been supposed.

RELATION OF THE INTENSITY OF REACTION TO SEVERITY OF THE ATTACK

No fixed relation appears to exist between these, but it is specially in the very mild cases of febricular type that a slow or partial reaction is likely to be met with. Some cases, however, clinically classed as febricular gave a very decided and complete serum reaction. In cases not giving the reaction it is often impossible, where the disease is very mild and convalescence very rapid, to tell whether a case was really one of typhoid. In such cases bacteriological examination of the stools by the Ellsner method for isolating typhoid bacilli should give valuable corroborative evidence. We regret exceedingly that a bacteriological examination of the stools was not made in the one case which appeared to be typhoid, and yet did not give the reaction. This was one of our earliest cases.

CONTROL CASES

Examinations made in thirty-three cases of fever due to causes other than typhoid did not give reaction. These were cases where there was no history of previous typhoid, but examinations made of patients who had had typhoid two or more years before gave negative results. Besides these a number of control examinations were made of the blood of healthy persons and from bodies in the *post-mortem* room. Such gave negative results, but of these we have not kept an accurate record. Nothing in the control examinations has given us any ground for supposing that the reaction occurs apart from typhoid.

INFLUENCE OF DRYING UPON THE BLOOD

Samples of blood kept dry in the ordinary air and temperature of the laboratory for sixty days still gave a good prompt reaction. Shorter periods, such as one or two days of drying, did not appear to have a material influence on the reaction. Apparently any injurious effect which may follow from drying is not so much due to the direct effects of desiccation on the specific substance as to the difficulty of obtaining the substance in solution afterwards. This has already been stated by Pfeiffer and Proskauer to be true of dried cholera serum, though no statement is made by them as to dried cholera blood.

REACTION FROM HORSES' BLOOD, ETC.

Jointly with Dr. W. H. Jamieson, one of us (J.) has studied the blood of a number of domestic animals, and can confirm the statement of Bordet, to the effect that the blood of the horse often produced a clumping and granular appearance in typhoid culture which we have not been able to distinguish from the effects of typhoid blood, except by the fact that the horses' blood produced a similar agglutinative effect on the cultures B. coli, which typhoid blood does not. There are some therapeutic possibilities for employment of horse serum in coli infection which we have not investigated. The only medico-legal application we have made of the reaction resulted in the restoration of harmony in what promised to be an awkward disagreement among medical witnesses in a case thought to be due to poisoning, but which presented post-typhoid lesions, a case which had been treated without any suspicion of typhoid having occurred to the attending physician. Of course under certain circumstances the presence or absence of the reaction might have great forensic importance in the examination of a blood stain.

EXPERIMENTAL PRODUCTION OF THE REACTION IN THE BLOOD OF ANIMALS

We were relieved to find that it is easier to produce the serum reaction experimentally than one would suppose from the recent accurate experiments designed to produce complete immunization. We have found that a single intraperitoneal dose of attenuated typhoid culture in the guinea pig is sufficient to produce a perfect blood reaction without any serious detriment to the animal's health. This accords with the more recent statements of French authors that a complete reaction may exist with very slight immunity.

SERUM REACTION OF DRIED BLOOD IN EXPERIMENTAL CHOLERA

These experiments were done in the Pathological Laboratory of McGill College with the assistance of Mr. E. W. Hammond. We have found that the dried blood of animals experimentally inoculated with cholera culture gave the reaction typically after several days' drying. This should make the dry method applicable to cholera, in which disease Achard and Bensaude[6] have recently shown that the reaction may be present even as early as the first day.

THE SERUM REACTION AS AN AID IN ISOLATING TYPHOID BACILLI FROM FÆCES, WATER, ETC.

Some preliminary experiments in the direction of straining off the clumped masses of typhoid bacilli obtained by adding typhoid serum to cultures in which when they were present together with the colon bacillus have been made, and have given us encouraging results. How far the power of separating mechanically in an hour or so most of the typhoid bacilli out of a mixed culture with B. coli may improve the state of our technique we cannot yet say.

We may mention that after adding typhoid serum to culture made from typhoid stools, a peculiar diffuse precipitation, attended by a clearing of the upper part of the fluid, was observed. In this way we are generally able to distinguish, out of a series of broth cultures made a few hours before, those from typhoid and those from normal fæces. A good deal seemed to depend upon the exact composition and reaction of the medium, as with some lots of bouillon we were unable to get this coarse reaction, and we are still unable to give directions whereby it can be obtained with certainty.

While Pfeiffer has undoubted claim to priority as to the description of all the essential features of the reaction, the recognition of its great value as a method of diagnosis and the introduction of a simple and accurate method are due to Widal, who first discovered that it was present early in cases of typhoid. The admirable work of Gruber and Durham, who first correctly interpreted the nature of the reaction, does not appear to have received the recognition which it deserves. For instance, these authors published some months before Widal the simple method of observing the reaction under the microscope with a drop of serum, which has since become the one generally used.

Note.—In order to investigate more thoroughly the nature of doubtful cases of typhoid and of febriculæ, the Board of Health of the Province of Quebec now supplies to the public depots small sterilized bottles in mailing cases, which bottles contain a sterilized curette. This curette can be used either to obtain a small quantity of fæces, or again to hold fluid blood.

CONCLUSIONS

1. The use of dry blood serum diagnosis has given us what appeared to be satisfactory results for diagnostic work.

2. An incomplete reaction was occasionally obtained as early as the end of the second day.

3. The complete reaction was rarely delayed beyond the fifth day.

4. Typhoid blood allowed to dry for 60 days still gave the typical reaction. This might permit of its application to medicolegal work.

5. In experimental cholera immunity, a typical reaction was obtained with dried blood.

6. The reaction may appear after a single dose of typhoid or cholera culture.

7. There is a possibility that the clumping of the typhoid bacilli may be utilized as a means of isolating them from cultures made from water fæces, etc.—*British Medical Journal.*

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[6] Achard and Bensaude. *La Presse Médicale*, September 26 (abstract in *New York Medical Journal*, November 7), 1896.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

The Function of the Suprarenals

According to the author, L. Szymonowicz, we are now in possession of three facts which throw much light upon the heretofore obscure function of the suprarenal capsules. The facts are as follows:

1. The extirpation of both suprarenals causes a decided diminution of the blood pressure; the pulse becomes smaller.
2. Introduction of suprarenal extracts into the veins produces chief of all a decided increase of blood pressure, slowing and increase of the heart's action.
3. The blood flowing from the suprarenal veins, when introduced into the circulation of another animal, causes the same phenomena as do the suprarenal extracts introduced into the blood, but in lesser degree.

As the result of his researches and those of Cybulski, the author believes we must come to the following unquestionable conclusions:

1. The suprarenals are organs of undoubted necessity to life, glands with internal secretion.
2. It is their duty (especially the medullary substance) to produce and transmit to the blood a substance which continually upholds the activity of the vasomotor nerve centers, the vagus and the accelorator nerves as well as the respiratory centers, and, in all probability, the centers controlling muscular tonicity.—*Arch. f. Phys.*, LXIV, Nos. 3, 4.

The Etiology of Jaundice

Professor Pick, at the November meeting of the Imperio-Royal Medical Society of Vienna, said: "The mechanical theory of jaundice appears to me inadmissible. In so-called catarrhal jaundice there is in reality no catarrh of the ductus choledochus, dyspepsia not being a proof of the existence of such catarrh. From an anatomical point of view, the mucous plug, which has been found in the common bile-duct in cases of catarrhal jaundice, is met with also in subjects who have never presented any yellow tint of the skin. The alleged impermeability of the ductus choledochus in jaundice does not exist. The principal argument against the mechanical theory is the rapidity with which jaundice supervenes after an attack of hepatic colic (usually about three hours). After experimental ligature of the ductus choledochus, it takes from one to three days before biliary pigments are found in the urine, and the skin does not assume a yellow tint, whereas intoxication by toluylenediamine determines very intense jaundice within two hours. A jaundice, which develops with such rapidity and reaches its maximum within twelve hours obviously cannot be the result of a mechanical action. The symptomatology of jaundice consecutive to hepatic colic is also against this theory.

"In my opinion, icterus, like the bile, can only originate in the liver, and there is consequently no hæmatogenous jaundice, properly so called. Jaundice supervenes when a portion of the bile passes into the lymphatic spaces, and thence into the thoracic duct and the blood. The condition must therefore be attributed to a disturbance of the secretory function of the hepatic cells. It is in fact a *paracholia*, presenting several varieties, according to its determining cause. Jaundice consecutive to hepatic colic is a nervous paracholia, due to a reflex action on the secretory nerves. Jaundice by autointoxication is the result of a peculiar arrangement of the hepatic cells, and the same remark may possibly hold good of icterus neonatorum. Catarrhal jaundice is an infective paracholia, as are also the jaundice observed in Weil's disease and that of acute yellow atrophy of the liver.

"Idiopathic jaundice should therefore be treated as an infective disease. The means at our disposal for combating it are, in addition to a suitable diet, administration of purgatives and intestinal antiseptics, enteroclysis and irrigation of the stomach."—*Sem. Med.*

The Treatment of Constipation

Dr. T. Lauder Brunton regards this symptom as the reaction of a healthy organism to unfavorable surroundings, viz., too soft food, too little water, or too little exercise. For the first, one may advise bread, either made of the whole grain or with more or less bran; vegetables in abundance, either cooked, as spinach, cabbage, broccoli, Brussels-sprouts, cauliflower, carrots, turnips, parsnips and the like, or raw, as tomatoes or celery. Fruits are of advantage—melons, apples, oranges, and figs. When stewed prunes are inefficient in keeping the bowels open, some senna leaves may be tied in a bag and placed in the receptacle in which the prunes are to be stewed. This plan has often been successful when the ordinary stewed prunes have failed. Sugars in themselves are useful laxatives. A favorite addition to the breakfast is marmalade which contains vegetable salts, sugar, and also the hard skin of the orange cut into small pieces, which are rather indigestible and give a mechanical stimulus to the bowel. Water insufficient in quantity or abnormal in quality is a cause of dryness of the bowels which results in constipation, which may be lessened by the taking of a tumblerful of hot or even of cold water on rising in the morning and on going to bed. For waters from a chalky soil, some of the bottled waters, soda, potash, or aërated water, should be substituted. The habit of evacuating the bowels at a certain time should be formed—at night if the patient suffers from hemorrhoids. Exercise is of advantage; massage, and rubbing the bowels in the direction taken by the hands of a watch, are also useful. In delicate women, especially those suffering from ovarian or uterine trouble, exercise may be harmful. Open-air defecation causes a stretching of the floor of the pelvis and affords support to the fecal mass as it is forced backward by the action of the abdominal muscle. This can be imperfectly imitated in the closet by the patient leaning forward to an acute angle. In some cases hydropathic treatment is useful—wet compresses to the abdomen two or three times daily, and sitz baths, cold in summer and with the chill taken off in winter.—*Lancet.*

Leucocytes as a Protection Against Infections

In studying this question Dr. M. Hahn placed small sponges, saturated with aleuronate—starch paste, in the peritoneal cavity of rabbits and closed the wound. After 24 hours the cavity was reopened and the sponges were found to be sterile but surrounded by a wall of leucocytes. The leucocytes also permeated the whole substance of the sponge which could only be separated from the walls of the intestines after the use of some force. To obtain the leucocytes, the sponges were broken up and washed with salt solution under antiseptic precautions. The resulting fluid naturally contained some serum beside the leucocytes, but the amount of serum did not exceed 3 ccm. This, however, was always considered in the following comparisons with serum.

This fluid was placed in tubes containing 2 ccm. each and, for comparison, other tubes containing equal parts of normal serum and physiological salt solution were used. Both series were inoculated with staphylococci and typhoid bacilli. On examination it was seen that the fluid containing leucocytes destroyed more bacteria than the other; but even if the normal serum was not diluted with salt solution its germicidal properties were less than the other. Even when no serum was added to the fluid containing leucocytes, it equaled the germicidal effect of the undiluted serum and surpassed that of the diluted, thus proving that alexine emanates from leucocytes.

The question arises: Are these protecting substances products of disintegration or secretion of leucocytes? In comparing the germicidal effect of histon blood, which contains large numbers of well-preserved leucocytes, with ordinary defibrinated blood, which contains large numbers of disintegrated leucocytes, the two are found to be about equal. Hence, it is probable that the human body is protected against infection by the product of metabolism and not the product of disintegration of leucocytes. —*Muench. med. Woch.*, 1896, No. 8.

Hay Fever and Its Successful Treatment

Bishop reiterates his views as to the uric acid theory of this affection. His views on treatment may be summed up as follows:

The palliative treatment for uric acidemia consists in promptly freeing the blood from it by means of an acid. At first he used dilute sulphuric acid in twenty drop doses, but was forced to abandon it on account of the griping pains and looseness of the bowels it produced. An excellent substitute is acid phosphate in doses of from one to two teaspoonfuls in a glass of water at bed-time and on awakening in the morning.

A copious draught of hot strong coffee taken on awakening in the morning will, in some cases, ward off the attack.

In very obstinate cases a morning dose may be taken of morphine sulph. 1-8 gr. combined with atrop. sulph. 1-400 gr. It may be repeated in an hour or two if the first does not entirely relieve sneezing, hydrorrhœa and stenosis. A menthol inhaler also affords much relief.

All patients seem to derive much benefit from home treatment with a mild spray of camphor-menthol in lavoline.

As to diet, it is necessary to reduce as much as possible the use of those foods increasing the actual formation of uric acid—such as meats, sweet wines and beer—and limit diet to fruits, vegetables, milk and fats. Eggs and fish should be used very sparingly.

A course of the salicylates, salicin, lithium salts, etc., will remove the excess of uric acid. If an alkali be given at the outset, it is likely to produce uric acidemia and precipitate an attack of the trouble we are endeavoring to prevent. For an attack, then, a dose of acid should be given to free the blood from uric acid; then the salicylate of soda should be given for two or three days, or longer, to sweep it out of the body; but the salicylate should *not* be given during an attack, for it may aggravate the symptoms.

Of course, any organic intra-nasal affection, as hypertrophies, polyps, etc., must receive attention. A vitiated condition of the blood or a depressed condition of the nervous system must be corrected.—*Laryngoscope.*

Identity of Malarial Infection in Man and Animals

Four years after the discovery of the malarial parasite by Laveran, B. Danilewsky happened to cultivate a similar micro-organism from the blood of birds, and after long search he discovered the presence of a parasite in the blood of the animals on which he was making his investigations which causes an acute condition of the affected animals, and at a later period bears a striking likeness to the parasite described in the tertian and quartan forms of fever in man. He therefore expressed the view (*Vratch*, 1890) that the hæmocytozoa of animals are the same pathogenic malarial organisms as those found in man; and in a subsequent publication in the *Ann. de l'Inst. Past.*, speaking of the identity of the hæmocytozoa with the parasite of malarial fevers in man, he said they belonged to the same genus of parasites; their near biological relationship can no longer be disputed. Further investigations on the same subject have led him to the following conclusions: (1) Although the great multiplications and differentiations in the appearance and forms of the different parasites in the several malarial diseases is established, yet there is still room to believe that they, one and all, owe their existence to the same genus of micro-organisms. (2) The typical malarial infection of tertian and quartan character is produced by a parasite —called by the author "cytamœba"—and the same parasite causes an acute form of malarial diseases in birds. Both in man and in birds the parasite is to be found in the blood. (3) In other malarial forms, like febris irregularis, continua, etc., in which the temperature is not constant, a growth resembling a half moon was obtained, and the same organism was cultivated from the blood of birds suffering from a chronic form of the disease. (4) The blood taken from either man or birds thought to be subject to malarial disease contains a cytozoon, which displays visible movement after the blood has been drawn from the vessels five to ten minutes. (5) The cytozoa after two or three days undergo certain morphological changes, and the formation of melanine ensues. (6) This chemical substance may, after a time, be detected as a deposit in the tissues of internal organs, such as the spleen, liver, the marrow of the bones, etc. (7) Both in man and in birds the malarial infection does not render the body immune to the new infection by the same poison. From a zoological point of view Danilewsky calls the cytozoa found in man and birds "hæmosporidia."—*Russ. Arch. Path. Med. and Bact.*, I; ref. *Brit. Med. Jour. Epit.*

Histogenesis of Miliary Tubercle

R. Kockel, the author, summarizes the results of his experiments as follows:

After injection of tubercle bacilli into the portal vein, thrombi containing bacilli are originated which are not at all or but poorly vascularized.

The necroses of the liver cells developing after the injections are not peculiar (specific) to tuberculosis, since they also occur after injection of grits. The liver necroses are caused by thrombosis of the portal vein.

The granulation tissue appearing along Glisson's capsule is to be looked upon as the first specific product of the tubercle bacilli which have entered, since it manifests no disposition to cicatrize, but subsequently caseates.

From the ninth day onward the true hepatic miliary tubercles develop. They are of intra-capillary origin and non-vascular from their inception.

All tuberculous products in the liver originate exclusively from proliferation of the endothelial and connective tissue cells; a participation of the liver epithelia and leucocytes in the structure of the tuberculous tissue is improbable.

The miliary tubercles of the liver frequently begin with the appearance of giant cells. The giant cells may originate in various ways; those in the liver are formed from hyaline capillary thrombi and endothelia.

The reticulum of hepatic tubercle is chiefly a product of coagulation called forth by the fixing solutions.

The caseation of the tuberculous products is dependent upon the non-formation of blood vessels brought about by the influence of the tubercle bacilli, and also upon obliteration of existing vessels in consequence of peculiar proliferation of the endothelia.

The further extension of the tubercle bacilli from the thrombi in the portal vein occurs chiefly through the agency of leucocytes. Possibly the liver tissue exerts a destructive action upon the tubercle bacilli. —*Virchow's Archiv*, Vol. 143, No. 3.

NEUROLOGY AND PSYCHIATRY

Woman's Sensibility to Pain

In the description by Ottolenghi of his investigations concerning the relative ability of men and women to endure pain, he says:

1. Women are less sensitive to pain than men.
2. Sensitiveness is less in early life, increasing to the twenty-fourth year, and decreasing afterward.
3. The more highly cultivated classes are most sensitive to pain; degenerates are less sensitive, some of them being very obtuse to pain sensations.
4. Sensibility to pain varies between much greater limits in women than in men, the ability to endure pain reaching a limit far beyond the limit in men.
5. General sensibility is greatest in the nineteenth year.
6. General sensibility depends upon the peripheral nerves.
7. The lesser sensibility to pain in woman is an indication of her inferiority to man, as the uncivilized are less sensitive than the civilized, and degenerates less sensitive than normal individuals.
8. Lessened sensibility to pain in woman is related to her greater longevity.—*Centralblatt f. Nerv. u. Psych.*, No. 7.

A Lunatic on Lunacy

A curious occurrence took place recently in Professor Krafft-Ebing's clinic, where a patient, at his own request, was allowed by the professor to deliver a lecture in his place, in order to demonstrate the peculiarity of his mental state. The patient is a highly educated man, of exceptional intellectual endowments, but for many years he has been the subject of so-called "circular" insanity. The recurrence of the disease prevents his pursuing for any length of time any occupation in which his natural abilities and acquired accomplishments would in happier circumstances have enabled him to gain distinction.

In the maniacal phase of his illness he shows an astonishing wealth of ideas, and with his manifold knowledge and his readiness of expression (he has lately been a writer) becomes witty and even brilliant in his language. Thus, in the lecture he delivered, on the mental condition of the maniac in periodical attacks of madness, he puzzled his auditory by the brilliant and exact form of his speech, and on a lay person or a junior student might even have made the impression that his statements were correct and his conclusions logically drawn, though, in fact, they were all nonsense. He spoke for nearly an hour, holding the attention of his audience the whole time. His look and bearing, which are those of a scholar, helped to keep up the illusion.—*Brit. Med. Jour.*, No. 1874.

Alternating Personalities

Dr. R. Osgood Mason, in a paper on "The Origin and Medico-legal Aspects of Alternating Personalities," read before the Section on Neurology at the Atlanta meeting of the American Medical Association, had this, among other things, to say about second personality, which he said was atavism:

It is a well-recognized fact that certain clearly defined traits or characteristics, either physical or mental, existing in ancestors, near or remote, may, after passing by one or more generations, at length crop out distinctly and unmistakably in a later one. Physical peculiarities or deformities, tendency to certain diseases, or peculiar mental characteristics are frequently in this manner transposed; also a peculiar insight or genius for certain pursuits, as for instance, hunting, fishing and frontier life, a military career, mathematics, music, acting, or scientific pursuits, existing in a marked degree in some near or remote ancestor may, indeed, be inherited directly in the succeeding generation, but, on the other hand, it may pass over one or more generations to appear in an unmistakable manner in a later one.

Suppose, for instance, that five generations back there appeared a man of marked and thoroughly bad characteristics married to a right-minded, moral, even religious woman; that he was a vilifier of morality and religion, profane and vicious in life and unscrupulous in his dealings with others; that the generations which immediately succeeded him came under influences which aided by inherited characteristics from the mother, led to lives of morality, uprightness or even conspicuous piety. In the fifth generation, however, appeared a man who in the midst of these moral and religious environments was conspicuous for his profanity, vicious life and unscrupulous conduct, so identical with his remote ancestor as to make the connection undoubted. Where did this evil tendency exist during the four intervening generations? Let us tap the main line between the two extreme points and see what information may be extracted. In the fourth generation was a mild, religiously inclined woman, but of unsound health and perhaps of unstable personality. From some sudden shock, syncope or loss of consciousness occurs and, as in the case of Félida X., on recovery an entirely new and different personality is found to have taken the place of the original one. It professes to be a man, and to the horror and consternation of the good people surrounding her she commences to curse, to vilify everything good and upholds sentiments and practices of the most offensive and criminal character. This person has a chain of memories and a personal history entirely foreign and unknown to the primary self, but quite consistent with those of the remote ancestor whom we have considered. In an hour or a day the primary consciousness has returned, but there is not the slightest knowledge or recollection of the character which she has represented in her second personality, and very likely the case is diagnosed as temporary insanity; in a more primitive age it would have been called possession by an evil spirit. It was in reality the strongly impressed characteristics of a distinct personality which had lain dormant in the subconscious self for three generations, now coming to the surface temporarily under favoring circumstances in the fourth. In another generation it actually appeared, an *atavism*, as the primary and usual personality. In like manner a personality of conspicuous goodness or conspicuous talent might pass over many generations of mediocrity or of evil-doers, and appear, a pleasant atavism, after one or many generations had intervened. Less extreme personalities might be formed in like manner, and more than one might be impressed upon individuals in successive generations, giving rise to the perplexing and much debated condition of multiplex personalities. Kraft-Ebing, as we have seen, found in his patient "three psychical existences" or personalities. Professor Janet's patient, Madame B., possessed three widely differing ones; while one of my own cases presented three and another two, alternating spontaneously at longer or shorter intervals, not including the cases in which changes of personality were brought about by hypnotism.

With this view of the origin and nature of ordinary as well as alternating personalities, it is not difficult to determine the medico-legal aspect from which these cases should be viewed. It is evident, first, that the primary self must not be held responsible for actions, either good or bad, committed by the second or any succeeding personality, since it is absolutely ignorant of the doings or even of the existence of these personalities. It would undoubtedly be just to restrain the individual from violence or wrong-doing, during the presence of the personality committing the wrong, but no longer; and it would be abhorrent to all our ideas of justice to take the life of or even to severely punish the individual whose identity we have been accustomed to associate with the ordinary self, on account of wrongdoing committed by any succeeding personality, while the ordinary self was wholly unconscious.—*Jour. Amer. Med. Assoc.*

Hysteric Deafness

Before commencing a more serious course of treatment, Cipriani advises treatment by suggestion when any unusual case of deafness presents itself, with a record of intermittency. He describes a case of this kind in which he secured permanent cure by simple suggestion, although every indication pointed to rheumatic deafness from exposure, and the patient, a healthy farmer of 44, seemed absolutely free from neurotic tendencies.—*Gazzetta degli Osp.*

Mirror-Speech, New Form of Aphasia

Marcel Baudouin notes a new kind of aphasia, which he names "mirror-speech," in analogy to "mirror-writing" (back-handed writing reversed to regular by reflection in a mirror).

Dr. Dozen was the first to observe this symptom just published by his pupil, Dr. Marcotte, in his thesis on "Temporary Hemicraniectomy" (*Inst. de Bibl.*, 1896).

The case was that of a little girl of 12 years, apparently affected with cerebral abscess following *otitis*, who was trepanned as a last resort. She got better, and improved rapidly in health, but the aphasia remained. She began to pronounce phrases seemingly meaningless, *e. g.*, this: "Te-tan-ma;" "Yen-do-sieur-mon, chant-mé;" "Le-quil-tran-ser-lais-me-vous-les-vou." She was very angry when she saw she was not understood. They happily thought of writing down what she said, and then saw that it clearly meant something, for she was pronouncing correctly, only inverting the order of the syllables. Thus the above phrases inverted meant: "Ma tan-te;" "Monsieur Doyen, méchant;" "Voulez-vous me laisser tranquille." M. Baudouin gives this to the specialists to fathom.—*Progres Medical.*

Mirror Speech

Dr. Grasset writes Dr. Marcel Baudouin, recalling an analogous case of aphasia in a woman, seen ten years previously, having hysteria major, in whom the inversion was *literal* instead of *syllabic*. She pronounced "luap teuor," which they at last saw was the name of her regular physician spelled backwards, "Paul Rouet." This phenomenon manifested itself for a long time, after which she became insane, and was removed to an asylum, after which Dr. Grasset lost sight of her. In this case "the words inverted in their letters still kept their place in the phrase, whilst in your case the words are themselves inverted in the phrase. My patient, besides, made this reversal of the letters with a quickness and an exactness that stupefied us." The case should be associated with the other, as another example of mirror speech.—*Progres Medical.*

Newspaper Rabies

This was the title of a paper by Dr. Irving C. Rosse, of Washington, at the Philadelphia meeting of the American Neurological Association, who referred to the frequency with which hydrophobia was mentioned by the public press at this season. Late papers on the subject showed that there was still a chaotic knowledge of this badly elucidated affection, concerning which surgeons and neurologists were by no means agreed. Dr. Rosse stated that when examining a great mass of literature relative to rabies while working on the "Index Catalogue" of the Surgeon-General's Office, he had come across hundreds of references to hydrophobia of a spurious character, and that these references dated from the Homeric era to that of Celius Aurelianus. He also cited other literature which showed that in bygone times there had been skeptics as to the existence of such a pathological entity as hydrophobia. He had been an extensive traveler in parts of the world where this disease was supposed to occur, and he had never seen a true case. The secretary of the Japanese legation in Washington had stated that he had never known of a case in Japan, and that in Corea, where there were more dogs than in any other country in the world, hydrophobia was unheard of. A few Italian and French physicians, and the newspapers, appeared to be the chief contributors to the subject at the present time. The speaker thought that, in view of the uncertain state of our knowledge of the subject, the newspapers were hardly to be blamed for their reckless accounts of hydrophobia, since they only held the mirror up to Nature, reflected public sentiment, and gave us, so to speak, a radiograph of what was passing in the minds of medical men.—*New York Med. Jour.*

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A British Association for Child Study has been started in England, under the presidency of Dr. Oliver. The inaugural meeting occurred a few weeks ago at Newcastle-on-Tyne.

SURGERY

GENERAL

Operative Treatment of Traumatic Meningocele

In a recent article, Dr. Rahm (*Beitraege z. klin. Chir.*, XVI, 1) reviews the various methods of treating traumatic meningocele (hydrencephalocele) in children, and, on the basis of the result obtained in two cases operated upon by Professor Krönlein at Zurich, he arrives at the following conclusions:

In cases of slight traumatic meningocele, compression, associated if necessary with tapping, may result in recovery, or rather transform the hydrencephalocele into a simple hole in the osseous substance of the skull; this is therefore the treatment that should be adopted in such cases.

In grave cases, necessitating surgical intervention, the cavity of the meningocele should be extirpated, and the porencephalic cyst should be drained also when necessary.

Of the two patients operated upon by Professor Krönlein, one was a woman, twenty-one years of age, in whom at the age of nine months the skull had been fractured, this accident being followed by meningocele, spastic paralysis of the left side, and Jacksonian epilepsy. Eleven years later, there could be seen on the left frontal and parietal bones a slight depression of the scalp with manifest pulsation. Palpation showed that there was a rent in the skull, 9 centimetres in length by 3 in width. At the time of the operation, that is to say, nine years after this, the rent still measured 8½ centimetres in length. The pulsation was somewhat less perceptible, but the epileptic seizures were more frequent. Professor Krönlein, assuming the existence of a traumatic cerebral tumour, decided to operate. He found in fact a cyst, the size of a nut, which he extirpated, when he discovered another of the same size, situated behind the former. These cysts were lodged in a porencephalic cavity, from 3½ to 5 centimetres in extent. Professor Krönlein drained this cavity and closed the wound. Recovery was obtained within three weeks, and the attacks ceased for some months, after which they reappeared, though they were less frequent and less severe than before the operation.

The second patient was a boy of fifteen months, who suffered from traumatic meningocele as a result of the application of forceps. The little patient presented in addition facial hemiatrophy and paralysis of the right arm. Tapping, associated with pressure, having only produced an ephemeral effect, Professor Krönlein extirpated the meningocele and resected a part of the integument. The loss of osseous substance was closed by a very thin membrane. Drainage was established and the skin was sutured. Union was obtained by first intention. A year after the operation, the condition of the little patient was good, except that the paresis of the right arm still persisted.

These favorable results of operation are explained, it seems to us, by the fact that neither of these cases at the time of operation presented the typical features of traumatic meningocele, there being in the first case no longer any meningocele, but only an endocranial porencephalic cyst, whereas in the second the hydrencéphalocele was no longer in communication with the interior of the skull. The principal difficulty associated with a surgical treatment, which is the communication existing between the meningocele and the interior of the brain, more particularly the lateral ventricle, consequently did not exist in these cases. Dr. Rahm is doubtless right, however, in considering free incision with drainage, as already proposed by various authorities, associated with excision of the meningocele as practiced by Professor Krönlein, as the treatment of election in cases in which there is, at the time of operation, communication between the extracranial cavity and the interior of the skull or lateral ventricle, provided the disease is continuously progressing.—*Sem. Med.*

Membranous Colitis Treated by Right Colotomy and Subsequent Closure of Wound

The authors, W. Hale White and C. H. Golding-Bird, give the following interesting details of a case, together with a novel method of treatment of this comparatively rare disease:

The symptoms were those usually present in severe cases of membranous colitis, and the patient, a female, age 30, was a complete invalid. She "had been ill for ten years; she had twice tried prolonged rest in bed and milk diet, she had had countless drugs, and had made several journeys to health resorts, in spite of which she was getting steadily worse, thus illustrating the known incurability of the malady by ordinary means.' Right colotomy was decided on in order to give rest to the whole length of the colon, and to allow of its thorough irrigation, as well as to avoid the part of the gut which pain and tenderness indicated as the most affected, viz.; the descending colon and sigmoid. The operation was completed in two stages, with an interval of seven days. Subsequently the large bowel was on several occasions irrigated with boiled water. Five weeks after the operation, the patient having gained strength and flesh, and having for some time completely lost all symptoms, objective and subjective, the colotomy wound was closed and the normal route of the passage of feces re-established.

The operation of closure seems to have been very successful, perfect and rapid union resulted, and the patient was allowed to get up in sixteen days. The bowels were kept confined with opium for the first eight days, after which they were regularly opened, compound liquorice powder being given as required. Apparently quite recovered, the patient was allowed to go into the country, and she continued well for another month, at the end of which she died, quite unexpectedly, of acute peritonitis, induced by some unknown cause.—*Med. Chron.*, 1896, VI.

Laparotomy in Contusions of the Abdomen

M. Aimé Guinard (Paris) referred to three cases, two of blows on abdomen and one of stabbing, in which he did laparotomy. Of the first two, one was the result of a blow from a heavy joist, the other from the violent kick of a horse, in both of which laparotomy revealed rupture of intestine and escape of contents into peritoneal cavity. But he had not received either case until thirty-six hours after accident, and both were fatal. His third case, however, had immediate laparotomy for a knife-wound in the left groin, received in an affray right in front of the hospital. He sutured two perforations of small intestine and a large tear of the omentum, whereby a considerable artery bled copiously. Healing resulted in a few days, though no drainage was used. He attributed success to the early operative interference, and said: "I call attention to two symptoms which appear to me most important in diagnosing perforation of the intestines in case of contusion of the abdomen: First, the prehepatic tympanic sonorousness; second, rigid contraction of the abdominal muscles, completely preventing all deep manual exploration." He advises small exploratory opening, which is to be extended if gas, feces, or blood be found, and which may be immediately closed without detriment if the peritoneal cavity is found intact.

M. Demons thought a light contusion or existence of shock would contra-indicate such interference, at least until reaction had set in, in the latter case.

M. Reclus protested against the exploratory incision, and insisted on the larger laparotomy if interference was made, as he thought it would have to be in most cases.

M. Demoulin related a case of wound of the abdomen with escape of omentum so as to hang down in front of the right hip. A laparotomy showed the existence of a hematoma of the cecum, caused by the same instrument that had let out the omentum. He ligatured two bleeding arteries and the patient recovered.

M. Reboul (Nîmes) gave the case of a three-year-old child whose left flank was cut open about two inches by falling on a broken glass bottle, causing hernia of the greater part of the small intestine impossible to reduce, whose folds were reddened and glued together. He covered the hernial bundle with antiseptic dressing, and had the child taken to the Hôtel-Dieu, where he operated 1½ hours after the accident. At the moment of operation, besides the small intestine and mesentery, the omentum, colon and stomach had pushed through the wound. He anesthetized and increased the opening to accomplish reduction. There being no deep lesions and no intestinal perforation he replaced the extruded organs as soon as he had properly cleansed them, though they were deeply injected and agglutinated by filamentous adhesions (from peritonitis). He sutured the walls with three rows of sutures, applied ice, had normal sequel and perfect union. He said: "I insist on the rarity of this case, its gravity, the importance of early interference and the cure we can effect in these cases though peritonitis has already set in."—*Progres Medical.*

Operating in the Absence of Symptoms

In a paper on "Appendicitis," by Dr. Chas. McBurney, read before the late meeting of the Orange Mountain Medical Society, the following statement is made:

"I have been asked if I operate on all cases of appendicitis in which the symptoms have practically disappeared, and I have replied that my feelings have changed so much of late that I feel quite willing to do so. Treves lays down the rule that when attacks have been very numerous, and when they have been increasingly severe and threaten life, operation should be done. My own view is that after two attacks a patient will as surely have the third as that after ten attacks he will have the eleventh. There is no rule which applies to the severity of the succeeding attacks. We know, however, that each attack renders an operation more and more difficult, and that it requires a larger incision and involves greater injury to the abdominal wall."—*Medical News.*

EYE, EAR, NOSE, AND THROAT

Congenital Anomalies of the Optic Disk

Casper gives a description of congenital membranes on the optic disk, and masses which are deposited in the disk itself. It is probable that many of the connective tissue masses are due to an imperfect cleaning of fœtral vitreous tissue or of the hyaloid artery. He does not give any microscopic description.—*Arch. f. Augenheilk.*, XXXIII.

Reading with Defective Vision

Karl Holler records a few cases of defective vision arising from various causes and of stationary character who were unable to read. Amongst these causes he mentions corneal opacities or of the vitreous, or lesions resulting from affections of the choroid, retina and optic nerve. Of course, the patients that can be benefited are limited. He cites the employment of his device in five cases.

His device consists of an ordinary spectacle frame, which carries on one side a screen and on the other a plus glass of from 15 to 30 D. This glass is mounted at the end of a short aluminum tube, two inches long, blackened inside and out. By this means the patient is enabled to read ordinary print by passing it in front of the eye. Of course, the field of vision is necessarily limited.—*Annals of Ophth. and Otol.*

Sea Sickness--Its Cause and Relief

The author, James L. Minor, says that it being a recognized fact that the maintenance of the erect posture and actual equilibrations are controlled by the semi-circular canals, and the fact that deaf-mutes do not suffer from sea-sickness are evidences to him that sea-sickness is of aural origin. His belief is further strengthened by the fact that deaf-mutes can be turned around very rapidly in a circle without suffering from nausea or dizziness. From this the remedy suggested for the relief of sea-sickness is the anesthetization of the canals by means of an 8 per cent. solution of cocaine dropped into the external auditory meatus.—*N. Y. Med. Jour.*

[It being a recognized clinical fact that in order to obtain the physiological action of cocaine it is necessary for the drug to be applied to mucous surface, we cannot see how the remedy can be of any use when applied to the external canal, when one remembers that this portion of the ear has a dermal lining.]

Keloid Tumors of the External Ear

W. T. Scheppegrell says that among the non-malignant tumors of the ear the keloid is the most common; that it is a fibroid neoplasm developed from the cicatricial tissue of the pierced lobule. As the piercing of the ear for rings is chiefly restricted to women, he finds this form of tumor usually in the female sex. Keloids are most frequently found in the negro race, which the author substantiates by statistics. The writer further believes that these neoplasms frequently recur owing to their incomplete removal or the formation of cicatricial tissue. Pain does not accompany these growths, and they are removed generally for cosmetic purposes. The author recommends, as the operation that gives the greatest success, a careful dissection of the tumor and the closing of the wound entirely, if necessary, by a plastic operation, thus securing healing by first intention. He reports several favorable cases where the above precautions were observed.—*N. Y. Med. Jour.*

Gonorrheal Iritis and Non-Suppurative Conjunctivitis

Wm. Cheatham, after quoting several authors upon this subject, reports the histories of three recent cases of gonorrheal iritis and one of conjunctivitis. His conclusions are as follows: "That the so-called gonorrheal iritis is more probably toxic than the result of the gonococcus in the blood; that the iritis always being non-suppurative appears to him another argument of the toxic origin of the disease; that a certain form of non-suppurative conjunctivitis, occasionally associated with gonorurethritis, is the result of toxins also."—*Archiv. of Ophth.*, XXV, 4.

Management of Chronic Simple Glaucoma

Richey, after stating that in his opinion most cases of glaucoma are directly or indirectly due to the gouty diathesis, says, under the head of "Local Treatment," based on the hypothesis that intra-ocular tension is due to venous stasis, he uses a frequent collyrium of eserine varying in strength from 1-1,000 to 1-4,000 repeated until myosis is produced. While using eserine, he also employs light taxis, using the two index fingers; pressure being light and alternating in character. He claims by this method to have reduced the tension in a great majority of his cases. To retain the myotic influence for weeks he uses a solution 1-8,000. In cases of extreme high tension not relieved by this method he uses local blood-letting by leeches.

Under the head of "General Treatment," besides the use of the myotic, in acute glaucoma, he employs the hot bath repeated after a few hours. In chronic glaucoma he states that the bath should not be taken except in hot water, and should be repeated several times a week, always using a tub bath and immersing the whole body.

The other therapeutic means employed are: A mixture of sodium salicylate, ammonia, and taraxacum, which should be pushed to their physiological limits. In irritable glaucoma he advises the use of colchicine. The intestinal tract is washed out with Hunyadi-Janos mineral water. In cases of hepatic torpor he recommends the use of calomel in divided doses and nux vomica as a stomachic tonic.

In conclusion, the author states that he has observed cases for a period of ten or twelve years in which the halo-symptoms have persisted, refraction increased, excavation deepened, but little or no loss of visual acuity, no contraction of field.—*Annals of Ophth. and Otol.*

Hereditary Gout of the Ear

The author, D'Aguanno, first describes the pathology of the affection, and then gives the history of three cases in which deafness developed as soon as the patient arrived at the age of puberty. There was no hereditary luetic history or disease of the naso-pharynx. The father had been the subject of gout for several years. From these facts the doctor believes himself justified in saying that in hereditary gout there is a form which affects the ear at the age of puberty.—*Rev. Internat. de Rhin., Otol., et Laryngol.*

Etiology of the Deviations of the Nasal Septum

Dr. John O. Roe divides the subject into predisposing and exciting causes. Among the predisposing causes he mentions syphilis, tuberculosis, and individuals who are strumous or rachitic. He also mentions racial characteristics as among the predisposing causes—abnormal cranial development—and concludes under this division by stating that the purer the race the less frequently he has noticed deflections of the septum. Exciting causes, he says, are either internal or external. Of the internal variety he mentions defective development, diseases of the septum and diseases of other parts of the nose. Defective development of the plates of the vomer also give rise to deviation of the septum. He believes that diseases of the turbinated bodies are not the cause, but the result of the deflection, as they are usually located on the concave side of the deviation when hypertrophied. Obstructions of the anterior nares are also given as a cause. Of the external exciting causes he mentions traumatism, blowing the nose with the same hand habitually, and the habit of inserting the finger into the nostrils for the purpose of removing scabs, etc.. —*N. Y. Med. Jour.*

Malignant Disease of the Nasal Cavity—Value of Early Diagnosis

A history of a case is given by Dr. J. H. Shorter in which a large polypoid growth was found in the upper part of the left nasal cavity, springing, as the writer presumed, from the ethmoid. A microscopical examination of the growth removed showed it to be carcinomatous. The patient passing into other hands, a diagnosis of it was made, which anti-syphilitic treatment failed to cure. Subsequently a specialist pronounced it to be non-malignant fibroma. The growth was removed by resection of a portion of the superior maxillary bones. In a short time (three weeks) the tumor reappeared, and the patient died at the expiration of three months.—*Jour. Am. Med. Assn.*

Amyloid Degeneration of the Cornea

The author, Boque, gives a detailed description of an amyloid degeneration affecting the cornea in an eye blind from iridocyclitis with an extensive leucoma adherens. Beselin was the first to report a case of this sort in the *Archives of Ophth.*, Vol. XVI, p. 130, and more have been reported since up to this case.—*Ann. di Ottalm.*, XXIV.

The Wearing of Veils and Its Effects Upon the Eyesight

Dr. Casey A. Wood discusses at length the ill effects resulting from the use of veils upon the eyesight. Every ophthalmologist, he says, has noted the fact that this habit or custom is productive of weak eyesight, headaches, and sometimes vertigo and nausea.

This is due not only to the strain consequent upon the added efforts made by one or both eyes to see through or around an obstruction, but the irregular figuring on the veil is itself a source of annoyance. The weakest eyes suffer most; but where the vision is normal they are able to bear the extra strain, and thus asthenopic symptoms, traceable directly to the use of the veil, usually escape notice.

Dr. Wood cites a dozen typical specimens of veils selected for the purpose of demonstration, and concludes that every description of veil affects the ability to see more or less; the most objectionable kind being the dotted veil. The texture and meshes of the veil are important factors. The least objectionable veil is the one without dots, with large regular meshes made with single compact threads.

One of the worst possible habits, the writer says in conclusion, is the common custom of reading in public conveyances, churches, theaters, etc., through this unnatural screen.—*Bost. Med. and Surg. Jour.*

DERMATOLOGY

A Case of Folliculitis Decalvans

Dr. George T. Jackson reports a case of this rare disease, illustrated by two beautiful plates, occurring in a woman 35 years old. The disease began on the vertex, six years ago, and tends to spread. New patches formed. No fungus was found in the hairs. The scalp is reddened and cicatrized. The case was refractory to treatment.—*Jour. Cutan. and Gen.-Urin. Dis.*, XIV, No. 166.

Treatment of Senile Pruritus

The following formula is recommended by Dr. Ellice M. Alger in cases of general senile pruritus, as giving excellent results:

Resorcin	1 part
Ichthyol	2 parts
Lanolin	30 parts

The writer also recommends not to add menthol, as is usually done, since as in persons of a certain age menthol causes a very painful sensation of cold.

The régime should also be looked after carefully, and the use of coffee and all alcoholic beverages interdicted.

The Value of Hypodermatic Injections in the Treatment of Syphilis

Hallopeau arrives at the following conclusions:

(1) The hypodermatic injections of the soluble salts of mercury must be definitely abandoned, as they are too painful to allow a sufficient dose being given, and the employment of cocaine for the relief of the pain being dangerous.

(2) The hypodermatic injections of gray oil are almost devoid of danger when moderate doses are used; their only disadvantage is that the gradual increase of the dose cannot be properly controlled; they must be reserved for hospital cases in order

to insure proper supervision, and for subjects who cannot undergo home treatment.

(3) Injections of calomel possess the great inconvenience of often being very painful; this fact is sufficient to reject their regular use. They should be reserved for those cases requiring very energetic and immediate intervention, and also in the rebellious manifestations of syphilis; they may be efficacious after other means have proven futile.

(4) Calomel injections, although carried out with the most minute precautions, may give rise to abscesses.

(5) The nodosities following injections of insoluble salts may become centers of ulterior manifestations of the disease.—*Bull. de la Soc. Franc. de Derm. et de Syph.*

Sarcoma Cutis Treated Successfully With Arsenic

Prof. A. J. Pospelow refers to a case of sarcoma of the head of the tibia associated with adenopathy of the inguinal glands in a woman, aged 23, which was caused by Samter in two years by means of Asiatic pills (the patient took 2,600 pills in two years) (*Deutsche med. Wochenschrift*, Sept. 13, 1894). Lassar (*Munchener med. Wochenschrift*, Aug. 7, 1894) reported a case of melano-sarcoma cured with arsenic. Pospelow describes the case of a woman, aged 50, with sarcoma of the nose and also involving the left angle of the eye and left cheek. The tumor of the nose was removed by operation, but relapsed. The administration of arsenic was begun October 13, 1894, in the form of Asiatic pills (ac. arseniosis, 0. 5; pulv. piperis nigr. 4. 0; pulv. gummi arabici, 10.0; aq. destill. 9. s. ft. pil., No., 100), beginning with one pill and increasing the dose one pill every five days. One month the patient took seven pills per diem; the tumor had changed but very little; the disseminated nodules had remained intact. In view of a possible cumulative action of arsenic, the patient was ordered one glass of Hunyadi-Janos once per month, and the drug discontinued on that day. November 24th the patient was taking eight pills per diem. The tumor on the nose had decreased considerably in size; the disseminated nodules on the left cheek could scarcely be felt. The nodule on the eye had become flatter and had begun to undergo involution. The patient took nine pills per diem without inconvenience. January 5, 1896, she contracted influenza associated with herpes zoster and otitis media. In consideration that herpes zoster—with an occasional edema palpepbrarum and anesthesia of the finger-tips—pointed to toxic influence of the arsenic, the remedy had to be discontinued. It was shortly resumed. January 31 the disseminated nodules had disappeared, but the tumor on the nose commenced to vegetate rapidly. August 8 the patient was entirely cured. The pills had been increased to eight per diem and were gradually decreased to one per diem, and finally omitted. The sarcoma had entirely disappeared, and only a slight hyperemia remained to mark its site. The author emphasizes the fact that it is necessary to continue the use of the arsenic for a long period. During six months the patient had taken 800 Asiatic pills and 1.00 Fowler's solution. Pospelow states that a thorough and permanent cure of sarcomata by arsenic administration is hardly to be expected, as they are quite likely to recur, but quotes the case above as a striking example of its possible beneficial effect.—*Arch. f. Derm. u. Syph.*, XXXIV, 2.

Ointment for Blackhead Pimples

Von Hebra and Unna recommend the following ointment:

Ichthyol	1 dr.
Bismuth Subnitrate	1 dr.
Ammoniated Mercury	1 dr.
Vaselin	10 dr.

Apply at night.

Roentgen X-Rays—Dermatitis Caused

Drury states the following case: Exposure for diagnosis of existence of renal calculus. Five cells were used, and later five more cells were added. Time, one hour. Clothing, thin woolen vest and linen shirt. A penny, for localizing purpose, was placed on back of kidney region. The tube was in front of abdomen, 1½ inches, and a celluloid plate between the tube and patient's clothing. Three hours after end of exposure, nausea was felt. Owing to poor plate, a second exposure was had six days later. Time, 1½ hours, and ten cells used. Current momentarily reversed at times. Nausea again; weakness. About twenty-four hours later, abdomen reddened 1½ inches square just below umbilicus, redder than the rest, locality being exactly opposite platinum plate in the tube. No itching; no pain. Third day redness increased. Fourth day vesicles. These increased during next few days. Blebs appeared later; ruptured. Eighteen days after second exposure, great discomfort from abundant discharge. The sore measured 7½ inches by 8¼ inches from ensiform cartilage to below umbilicus. After cleansing this showed a glazed pink surface, sharply defined; painless and almost non-sensitive. No granulations. Ten days later, lessening of symptoms; epithelium began to grow in from the edge. Skin grafting with ill success. Healing gradually attended with much pain and sensitive to the various applications. After two months the whole sore was deeply cauterized with arg. nit., after which slough separated, with grey and non-granulating surface underneath. A thick false membrane succeeded, tough yellow and opaque. Patient etherized; sore scraped; actual cautery applied. No slough. A thick insensitive membrane remains sixteen weeks after the first exposure. The location of the sore was detrimental to the patient's comfort and to the healing of the sore. An attack of renal colic was also detrimental, the patient's general health being below par. With return of physiological conditions, the sore again presents a better appearance with healing tendencies.—*Brit. Med. Jour.*, No. 1,871.

Cutaneous Diseases Treated with Ichthyol

According to that eminent authority, L. D. Bulkley, ichthyol certainly stands very high in importance among the newer additions to therapeutics in dermatology, as it is also valuable in other branches of medicine, and all are undoubtedly familiar with its use. As an antipruritic it is often of great service. Added to ointments, in a strength of from 6 to 10 per cent., it is very valuable in eczema, and may be used in even quite acute conditions. In dermatitis herpetiformis an aqueous solution, 5, 10 or even 20 per cent., will often give more relief than any other local remedy. When the skin is too dry it can be used in almost the same strength in oil with much advantage; the same measures are of much service in pruritis ani. In burns an ichthyol ointment, about 6 per cent., will often prove the most comfortable dressing, and on old ulcers of the leg the same, though stronger, is very valuable.—*Jour. Am. Med. Assoc.*, XXVII.

Ringworm of the Scalp

Dr. Allen finds the following formula yields a preparation that is of greatest benefit in the treatment of ringworm of the scalp:

Mercury Nitrate	1 part
Ichthyol	1 part
Collodion	8 parts

Dr. Wolff, of Atlanta, says he has found the following to be very useful also:

Ichthyol	5 parts
Chrysarobin	5 parts
Salicylic Acid	2 parts
Vaselin	88 parts

OBSTETRICS AND GYNECOLOGY

Rapid Diagnosis of Uterine Conditions.

Dr. J. S. Cullen advises the placing of scrapings from the uterus at once in a 10 per cent. solution of formaldehyd, for half-an-hour to two hours, according to the character of the specimens. When taken from this they are to be frozen with liquid carbonic acid or ether, cut into sections, fixed in alcohol, stained in hematoxylin and mounted in Canada balsam. This preserves the blood in good condition and enables the operator to give a definite opinion as to the intra-uterine condition within a few hours. —*Amer. Jour. Obstet.*

Effects of a Short Cord

Dr. G. Bell says: A short umbilical cord may be the cause of delayed or of hastened labor during any stage of birth, but delayed labor is more frequent in the second stage, and hastened labor often at the beginning. The symptoms of brevity are: 1. Secondary or dragging pains. 2. Localized tenderness of the womb. 3. An elastically retreating head.—*Indiana Med. Jour.*, Nov., 1896.

Latent Gout of the Menopause

At the November meeting of the British Gynecological Society a paper was read on the "Latent Gout of the Menopause," in which it was said that such patients presented the following symptoms: (1) Increased stoutness, with muscular flabbiness; (2) puffiness of hands and feet; (3) mental and bodily lethargy; (4) shortness of breath on exertion, with cardiac debility; (5) irritability and restlessness; (6) broken and disturbed sleep; (7) a feeling of weariness on arising in the morning; (8) dyspepsia, flatulence, and constipation; (9) migraine; (10) various neuralgiæ, especially of back of head and neck; (11) lumbago and vague muscular pains. The quantity of urine was generally diminished, with a high specific gravity, urates and uric acid in excess. At first he regarded the symptoms as neurotic, but seeing how often they were present in neurotic forms of gout, he decided to try treatment adapted for gout, and with the best results. The indications of treatment were: (1) To increase the elimination of waste products from the blood; (2) to disperse the morbid products in the lymph spaces, lymphatics, and muscles; (3) to improve the state of the sympathetic nervous system. For the first purpose he ordered the drinking of hot water or of natural thermal waters, and the box vapor bath; for the second purpose he used massage or the Aix douche, or mud baths, and in some cases Swedish exercises; for the third purpose he recommended electro-massage. The general treatment included regulated exercise and a selected diet, the carbohydrates being eliminated as far as possible. In some cases the Salisbury diet gave good results. Local pelvic treatment should be carried out when required.—*Brit. Med. Jour.*, No. 1874.

Pregnancy and Heart Lesions

That heart disease is not in all cases a barrier to proper marriage is shown by Jaccond. He cites a number of illustrations where patients with diseased hearts suffered no serious inconvenience up to the third, fourth or even fifth pregnancy.

In giving advice to patients on the matter the degree of the lesion, the effect of treatment, the environing conditions, and the wishes of the patient, must all be considered. —*Sem. Med.*

Syphilis as a Cause of Premature Birth

J. A. Ouimet, in an exhaustive article with above title, after considering the frequency of abortion in syphilitics; the epoch of pregnancy at which miscarriage takes place in syphilis; repeated abortion; the causes of abortion in syphilis; the influence of paternal syphilis upon pregnancy and the product of conception; and the treatment of this condition during pregnancy, further says that it is difficult to fix with precision the frequency with which abortion takes place in syphilis. With respect to the proportion of labors at full term in syphilitic women, he cites Diday, 61 %; Stolz, 66 %; Hecker, 27 %; Fournier, 47 %; Pillin, 36 %. The period at which abortion occurs in syphilis usually takes place from the sixth to seventh month, varying according to the quantity of the syphilitic dyscrasia and the length of time it has existed.

Abortion can take place a considerable number of times; to occur six times is not at all exceptional. He cites Fournier as having observed a woman who aborted nine times, and this same author reports another case that had ten abortions in succession; and at the eleventh pregnancy a full term syphiltic child was born which died four hours after birth.

The death of the fetus is the cause of abortion. The syphilitic infection is analogous to certain virulent affections, scarlatina, variola, etc., which can be transmitted from the mother to the fetus.

Syphilitic disease of the maternal surface of the placenta can cause the death of the child and premature birth.

The paternal parent exercises a direct influence upon the product of conception; moreover, syphilis can be transmitted to the fetus without contaminating the mother.

We consider the mercurials quite efficacious in the treatment of syphilis during gestation. We cite Fournier as employing the proto-iodide of mercury, prescribing from 5 to 10 centigrammes daily after meals; at the present time the phenate of mercury gives excellent results. If it is impossible to administer mercury by the stomach, he employs inunction. It is also advisable to employ tonics, iron, arsenic, etc.

His conclusions are as follows:

I.—Syphilis is an important cause of premature birth; this being produced by lesion of the fetus as well as of its appendages.

II.—As a rule, it takes place at the seventh month. The paternal parent can transmit the disease to the product of conception.

III.—The mother can give birth to a syphilitic child, she being free from syphilis.

IV.—If both parents are syphilitic, the child rarely escapes contamination.

V.—When the mother contracts syphilis at the end of pregnancy, there is less probability of the child becoming infected.

VI.—The mother being syphilitic prior to pregnancy has more probability of giving birth to a healthy child the older the syphilitic dyscrasia.

VII.—A child of a non-syphilitic mother can present syphilitic manifestations at birth, or they may not appear for months or even years.

VIII.—The institution of anti-syphilitic treatment by mercurials at the beginning of pregnancy lessens the danger of abortion, and it is possible that a non-syphilitic child be born.

IX.—When the paternal parent is syphilitic, the mother should be submitted to mercurial treatment, thereby lessening the chances of aborting, and thus bringing to the world a healthy child.—*La Clinique*, Dec., 1896.

Causation and Treatment of Secondary Puerperal Hemorrhage

The writer, Dr. Routh, treated this subject at considerable length before the British Medical Association at its recent meeting.

He stated that "secondary" hemorrhage, as it is termed, occurs after the physician has left the patient, there being no apparent need for his further attendance. Such hemorrhage may be external or internal, and may be due to various causes, such as sudden relaxation of the uterus, from strong emotion or fright; detachment of a thrombus, by exertion or incautious administration of ergot; or the loosening of a piece of retained placenta.

It is known that when ergot is given to an exhausted patient before the birth of the child, it causes an irregular contraction of the uterus, accompanied by spasm of the contraction-ring, and also retention of clots. In such a case blood would be retained and severe internal hemorrhage might result. At such a time ergot must be given hypodermically, the uterus dilated by hand and emptied, and contraction secured by manual manipulation.

The author also advises at such a time to use a hot douche (48° Cent.). Where there is severe external hemorrhage, the uterus should be explored before the third day for pieces of the placenta, which, when found, should be detached with the finger and removed, and the uterus then packed with gauze. If necessary, either bougies or dilators must be used in order to open the womb.

A discussion followed this address, in which many present took part.

Van Someren stated that he had succeeded in a desperate case by compressing the abdominal aorta. Ritchie gives tincture of nux vomica in large doses, and for some weeks before labor, where a hemorrhagic tendency exists. The placenta and membranes are examined, to see that nothing is left behind. He has used a crystal of ferric alum inserted into the os uteri, for bleeding, followed by hot douches. Byers has known a distended bladder to give rise to bleeding some days after delivery. Donald drew attention to a class of cases in which, after normal labor on the eighth or ninth day, the patient was seized with a chill, rise of pulse and temperature, and hemorrhage, resulting from the absorption of fecal matter. Calomel and salines in such cases caused a speedy cure. Williams had met two cases; one at the end of the first week, in which sudden bleeding occurred; it ceased, to return two or three days later. In one, a small piece of placenta was found, and in the other a small fibroid tumor lay loose in the uterine cavity. Bleeding stopped when they were removed. The hemorrhage, however, was so severe that intravenous injection of salines was necessary. Kerr has seen such hemorrhage in cases of backward displacement of the uterus. He does not think that rapid emptying of the uterus causes hemorrhage, since it was not observed after Cesarean section and precipitate labor. He thinks that a too early resort to Crédé's method of expelling the placenta has much to do with causing bleeding. The physician should wait until the placenta has become separated from its attachment to the uterus. Murdoch Cameron, in serious bleeding, trusts to tamponing and uterine massage. He also has found benefit from the use of the curette and antiseptic douche. Routh has found rectal injection of several pints of saline solution very useful.

Effect of Ovariotomy Upon the Voice

Six cases are reported briefly summarized by the author, Dr. Castex, as follows:

1. Woman of 30—Double ovariotomy seven years before. No menses since. Upon resuming singing after operation, patient noticed that her voice had gained four lower notes without any impairment of its higher notes.
2. Woman of 26—Hoarseness, especially in the higher register. Double ovariotomy three years previously, succeeded by hoarseness, which had practically destroyed her singing powers. Nothing in the local condition of the vocal organs was found to account for the change.
3. Woman of 35—Laparotomy, and later vaginal hysterectomy. Vocal powers not affected. Voice, if anything, more flexible after operation than before; probably due to removal of various pre-existing nervous symptoms.
4. Woman of 23—Removal of uterus and adnexa. Voice gained in range and power after operation.
5. Woman of 22—Double castration for salpingitis, in 1892. Voice immediately after operation became muffled. Evidences of both syphilis and pulmonary tuberculosis. Larynx anæmic and some interarytenoid infiltration. Hence, some doubt as to whether vocal impairment had any relation whatever to operation.
6. Woman of 35—Double ovariotomy. No menstrual flow after. Vocal power (dramatic artist) not impaired at first, but one year later voice became easily fatigued.

Consequently, no contraindication to ovariotomy exists in the possibility of vocal impairment. If, however, an abdominal hernia results after operation, great annoyance may result upon any severe vocal effort.—*Rev. hebd. de Laryngol*, Vol. XVII.

To Relieve After-Pains

For after-pains no drug works so charmingly as amyl nitrite. A recent writer recommends that pieces of tissue paper be placed in a small vial and the paper saturated with a few drops of the drug. To relieve the pain it is only necessary to remove the cork and simply inhale the odor.—*Atlantic Med. Weekly.*

BACTERIOLOGY AND PATHOLOGY

Bacteria in Ice

It has been shown by Foster that some kinds of bacteria live and grow in melting ice. Putrefactive bacteria having gained access to the ordinary household refrigerator, where the temperature is a few degrees above the freezing point, can live and multiply there, thus contaminating meat and other food kept therein. A butcher's refrigerator so contaminated will taint his meat and perhaps injure his patrons.—*Centralblatt f. Bacteriologie*, Vol. XII.

Herpes Facialis as a Symptom of Bacterial Intoxication

Friedreich (*Berlin. klin. Wochenschrift*) made some experiments with cultures of streptococci, as used by Coley in the treatment of malignant disease. In seven cases, herpes facialis was observed. All these were cases in which sterilized cultures of streptococcus and prodigiosus were used. The eruption appeared not earlier than thirty nor later than fifty-eight hours after injection, and in two cases was followed by recidiva. As there was no infection in these cases, the herpes must be considered as due to intoxication.—*Modern Medicine*, Dec., 1896.

Alkalinity of the Blood and Microbic Infection

Josef v. Fodor (*Centralbl. f. Bakt. u. Parasitenk.*) records a number of experiments showing the influence of the alkalinity of the blood on diseases produced by micro-organisms. Four series of experiments on animals are first reported, which show clearly that, by the administration of alkalies (sodium bicarbonate by the mouth or by subcutaneous injection), the power of resistance against infection with cultures of anthrax bacilli is greatly increased. The normal alkalinity of the blood was determined by the examination of seventy-six healthy rabbits, and four experiments are reported, showing the increase in the alkalinity of the blood which occurs after the administration of sodium bicarbonate. The author then records the results of a large number of observations on the alkalinity of the blood in rabbits after infection with the bacilli of anthrax, cholera, typhoid fever, tuberculosis, and erysipelas. These observations show that in the living organism, after infection with certain bacilli, there is first an increase of the alkalinity of the blood and then a diminution of the same, more or less. If the infection is fatal, the diminution of the alkalinity is marked and progressive; if not fatal, the diminution is slight, and is followed by an increase of the same, in consequence of which the alkalinity of the blood becomes permanently higher than before the infection. Thus there exists a connection between the pathological action of certain bacteria and the alkalinity of the blood. Those rabbits having the greater alkalinity of the blood, as well as those in which the alkalinity of the blood is increased to a greater extent after infection, have greater power of resistance against certain infectious organisms (anthrax bacilli) than the rabbits in which the alkalinity of the blood is less. It appears, therefore, that the degree of alkalinity of the blood, as well as the power of the organism to increase this alkalinity with corresponding intensity after infection, is of essential influence upon humanity.—*British Medical Journal.*

The Preparation of Antitoxic Serum, or Antitoxin

The general interest that has been developed in this new principle in the treatment of disease justifies a brief description of the technique of the preparation of the immunized serum.

First.—For the purpose of securing as virulent a culture of the diphtheria bacilli as possible, the culture is grown upon Loeffler's solidified blood serum mixture, consisting of three parts of blood serum and one part of a 1 per cent. glucose bouillon. This is placed in an incubator at a temperature of 45 degrees centigrade, for 24 hours, when the bacilli are found to be well developed.

Second.—Single colonies of these bacilli are transferred into small flasks of a 2 per cent. alkaline peptone bouillon, placed for 24 to 48 hours in an incubator at a temperature of 37 degrees Cent.

Third.—The contents of these flasks are then transferred by pipettes into large flasks and placed in an incubator at the same temperature and kept there until the bacilli have become very numerous and have produced in the bouillon a large amount of their characteristic toxin.

By microscopic examination the purity of the culture is then determined, to assure that no other than diphtheria bacilli are present.

Fourth.—An antiseptic is then added, for two reasons, viz.: to destroy the diphtheria bacilli, and to preserve the culture from decomposition—from contamination with all other micro-organisms. The preferred antiseptic is trikresol, as it is comparatively non-poisonous to animals, and it does not, by its odor, prevent the detection of decomposition, should that occur.

Fifth.—This bouillon is now filtered through a modified Chamberland filter, to remove the dead bodies of the diphtheria bacilli. The resulting product, freed from the bacilli, is simply a solution of the toxin secreted by the bacilli. It has no life, and could not produce any disease. It is, however, a strong alkaloidal poison, that which poisons the diphtheria patients if they do not overcome it or die in the meantime from suffocation by obstruction of the air passage by the pseudo-membrane. The exact degree of toxicity of this toxin is determined by testing it upon guinea pigs or other suitable small animals.

Sixth.—The horse, previously tested for glanders and tuberculosis and found to be healthy, is given a minute injection of this toxin. It will thus be seen that the animal is not given diphtheria, and in the process he does not develop diphtheria. A slight edema occurs at the site of the injection and there is a slight febrile disturbance. This indicates nature's resistance to this toxin—her formation, in the blood, of a protective antitoxin—just the process that occurs in the system of a diphtheria patient. These toxin injections are repeated at intervals of about six days, stronger each time, until, within three months, the horse shows complete resistance to the most concentrated and virulent toxin that can be produced. He is then found to be completely immunized against diphtheria and its toxin, or poison—that is, his blood has developed its full capacity of antitoxin.

Seventh.—A trial supply of his blood is drawn from the jugular vein, the serum separated from it and its exact antitoxic power tested by employing it upon guinea pigs poisoned with the toxin. If the antitoxin is found to be of the desired strength, the horse is bled freely, the serum or antitoxin collected, sterilized, and sealed in suitable bottles, when it is ready for use.—*Medical World.*

Fatal Septicemia Due to the Micrococcus Tetragenus

Chauffard and Rémond (*Arch. de Med. Ex.*) point out that the virulence of this micrococcus, which has been found in the mouths of healthy persons, and was detected by Koch in tuberculous cavities, is proved by numerous recorded cases, in which it has caused suppurations, generally in the cervico-facial or cephalic regions. In the two following cases its effects were fatal:

A girl of fifteen years died with typhoid symptoms about eight weeks after the beginning of a severe influenza; the necroscopy showed multiple suppuration of the joints, acute purulent pericarditis, abscess of the myocardium, pulmonary infarcts, and abscesses of the liver and kidneys. All the abscesses had a typical appearance of fatty caseation, and the brown effusions in the pleura and pericardium had numerous oily drops on their surface. The tetragenus was present in all the lesions. A young boy of eight years also died with symptoms of secondary infection, following suppurative arthritis of the right knee, which, when aspirated, gave a pure culture of the M. tetragenus. The microbe was also found (with others) in the scrapings of an ulcer on the patient's tongue opposite a carious tooth. In both cases the cultivations of the micrococcus proved virulent to animals, and the pus in the consequent abscesses had the same characteristic appearance.—*Modern Medicine*, Dec., 1896.

The Typhoid Bacillus in Earth, Water, Etc.

Remheifer and Schneider report the discovery in eight out of thirty-six samples of water, of bacilli with the form and reactions of those of typhoid fever. Animals that would succumb if inoculated with them would be protected by typhoid antitoxin. Similar bacilli with like reactions were found in the stools of patients suffering from Bright's disease, malaria and leucemia, although they never, to their knowledge, had suffered from typhoid fever. The same organism was found in six samples of earth. —*Am. Jour. of Med. Sci.*

A New and Easy Method of Preparing Serum Agar-Agar

A. Kanthack and J. Stephens find that ascitic, pleuritic or hydrocele fluids—albuminous exudations directly derived from the human blood—may be used with advantage instead of serum. Beautifully clear and transparent agar-agar may be made from them in less than an hour.

To every 100 c. c. of the serous exudation, 2 c. c. of a 10 per cent. solution of caustic potash are added, whereby the serum albumin is converted into an alkali albumin not precipitated on boiling. To this add 1½ to 2 per cent. of agar-agar, previously soaked in acidulated water, and boil the mixture in a Koch's steamer till the agar-agar is well dissolved. It is now filtered through a hot-water funnel, and if a coarser kind of filter-paper is used it will generally run through very quickly and be marvellously clear. To the filtrate 4 to 5 per cent. of glycerin should be added. It is then poured into test-tubes, and the contents of the latter, after sterilization, will set firmly and often form a medium almost as transparent as gelatin. Besides glycerin, ½ to 2 per cent. of grape sugar may be added; but the authors have not found that this in any way improves the medium; on the contrary, the combined presence of the sugar and the caustic alkali renders the agar-agar darker. This serum agar-agar has the following advantages: (1) It is quickly prepared with very little practice, often in about half an hour; (2) it is exceptionally clear and transparent; (3) its basis is derived from the human subject; (4) the serous exudations can be easily obtained free of cost and trouble; (5) it does all that serum can do; (6) its selective action on the diphtheria bacilli is greater than that of any other serum preparation known to the authors; (7) its inhibitory action on staphylococci, bacillus coli communis, etc., is extraordinary; (8) cultures which on ordinary media appear as uniform streaks, in this medium develop as individual colonies, so that subsequent cultivation is rendered easy; (9) organisms which utterly refuse to grow on gelatin and agar-agar, thrive well on this soil, and the authors have therewith separated certain bacterial forms which on other media have always escaped detection; (10) this medium can be readily melted and used for plate cultivation; the resulting plates are more transparent and drier than ordinary agar-agar plates. In a diphtheria diagnosis it has saved a considerable amount of time.

Before adding the caustic potash to the serous fluid, it is always advisable to boil a small quantity of it in a test-tube. If it becomes practically solid, or contains large quantities of albumin, the fluid must be diluted with at least twice its bulk of distilled water, and then to every 100 c.cm. of the diluted fluid, 2 c.c. of KOH and 15 to 2 gme. of agar-agar are to be added. Unless this is done, the whole mass will gelatinize and be utterly useless. The exudation, after the addition of the alkali, forms a good liquid nutrient medium for bacteria—useful because it is easily sterilized, and because it favors the chemical activity of many pathogenic organisms.—*Lancet*, No. 3787.

Lactic Acid Formation in the Stomach

The almost constant presence of lactic acid in the stomach in cases of gastric carcinoma, induced the authors, Rosenstein and Richter, to bacteriologically examine the stomach contents of healthy individuals, and of those suffering from benign and carcinomatous ectases, for the presence of lactic-acid-forming bacilli. The presence of lactic acid was demonstrated by the addition of iron chloride to the ether extract of the filtered gastric contents which had been acidulated with phosphoric acid.

In the healthy as well as in diseased stomachs a variety of species of bacteria were detected which are vigorous producers of lactic acid. The authors deny that any *specific* bacteria induce lactic acid formation in carcinoma, and show that the large, angularly-bent bacilli to which this function has been ascribed also occur in non-carcinomatous stomachs and form lactic acid. Since, in spite of the presence of lactic-acid-forming bacilli in healthy stomachs, lactic acid can almost constantly be detected only in carcinoma, the authors conclude that here, in addition to the depression of the secretory function, the motor function is so weakened that the fermentative factors have opportunity to remain for a long time in contact with the food-stuffs and thus manifest their action. It is still to be mentioned that almost all of the lactic-acid-forming bacilli isolated by the authors likewise possessed the ability of inducing further fermentations, especially gas fermentations, and, after the originally acid nutrient substratum had gradually become alkaline, putrefactive processes also.—*Zeitschr. f. klin. Med.*, XXVIII, Nos. 5 and 6.

Origin of Sulphureted Hydrogen and Indol in the Stomach Through Proteid Decomposition

H. Strauss gives the result of an exhaustive bacteriological and partly chemical examination of the gastric contents of a patient suffering from H_2S formation in the stomach.

The presence of the bacterium coli commune was proven bacteriologically, and a series of tests rendered it probable that this bacterium was the cause of the formation of the H_2S in the case reported. Regarding the question under what conditions the bacterium coli causes a production of H_2S, it is interesting to note that in the discharged gastric contents the H_2S development was inhibited by addition of grape sugar, and in place thereof an active CO_2 gas fermentation could be developed. Hence, it appears as if H_2S fermentation will readily occur in the stomach, providing no saccharine carbohydrate is present. This is also the reason of the clinical fact that, particularly in some ectases accompanied by good HCl secretion, H_2S formation is so frequently observed.

Furthermore, the formation of indol was detected in the stomach, and for this also the bacterium coli is responsible.—*Berl. Klin. Woch.*, 1896, No. 18.

THERAPEUTICS AND PHARMACOLOGY

REMEDIES INTRODUCED IN 1896

Acetal:—Mixture of acetic ether, oils of orange, thyme, wild thyme, cloves, lavender, lemon, rosemary and bergamot, menthol and absolute alcohol. Must not be confounded with true acetal—ethylidenediethylic ether—a hypnotic and sedative.

Actol:—Silver lactate. Resolvent and antiseptic. Dose (subcut.) :6.01 Gm. Extern., 1:500–1:5000 solution.

Adipatum:—Proprietary ointment base consisting of anhydrous lanolin, vaselin, paraffin, and water.

Aerozol:—Essential oils containing 25 volumes of ozone.

Agnolin:—New proprietary wool-fat.

Alkali-albuminate:—A powder, soluble in water, and used as a culture medium in bacteriology.

Aiodin:—An extract of the thyroid gland. 1 Gm. aiodin represents 10 Gm. fresh gland.

Alapurin:—A purified wool-fat.

Algophene:—Caffenol.

Amyloform:—Compound of formaldehyde and starch, similar to glutol as a surgical antiseptic.

Ammonin:—"A soda deposit to which calcined soda is added. For the manufacture of soap and for cleaning linen."

Anazyme:—Chemical combination of carbolic and boric acids. Succedaneum for iodoform.

Anagyrine Hydrobromate:—The hydrobromate of an alkaloid obtained from the seeds of Anagyris fœtida. Used as a stimulant in cardiac affections.

Anal:—Remedy for piles, etc.

Anectasin:—Ectasin. A product of bacterial action, and of contrary influence on the vasomotor nerves.

Anisidine Citrate:—Analgesic, possessing similar properties to phenetidin citrate.

Antibacterin:—An ethyl-orthoborate compound containing some iron. Used in inhalations in tuberculosis. Not to be confounded with "Antibacterin-Stier," which is a crude aluminum sulphate mixed with soot.

Anticausticon:—A preparation of soluble water glass.

Antichlorin:—Mixture of glucose, basic bismuth formate, and sodium bicarbonate. Used in anemia.

Antidiabeticum:—Glycosolvol. A preparation intended for diabetics, and said to possess the power to reduce the amount of sugar from 1 to 7 per cent. in from 3 to 18 days.

Antidiabetin:—Mixture of saccharin and mannit, used instead of sugar by diabetics.

Antihemicranin:—Antimigraine.

Antimigraine:—Antihemicranin. A mixture of caffeine, antipyrine, and sugar. Dose: 1.5 Gm.; children under 12, 0.75 Gm.

Anti-nausea:—A remedy for sea-sickness, said to be composed of cocaine and antipyrine.

Antipilus:—A preparation for removing hair without pain or injury. Germicide, and antiparasitic.

Antiseptin:—Mixture of sodium or potassium silicate and corrosive sublimate solution, used for preserving wood. Must not be confounded with the Antiseptin composed of zinc sulphate, zinc iodide, thymol, and boric acid.

Antisudorin:—A mixture of boric, citric, and salicylic acids, borax, glycerin, alcohol, distilled water, and several ethers.

Antitoxin, Artificial:—An antitoxin prepared by passing an electric current through a toxic bouillon. Bactericide in diphtheria.

Anusol:—A remedy in the form of suppositories, and intended for use in tenesmus, catarrh of the rectal mucosa, anal fissure, pruritus vaginæ, etc.

Apral:—Preparation used as a preservative for meats, beer, and malt liquors.

Arginine:—$C_6H_{14}N_4O_2$. A substance obtained by the action of hydrochloric acid on proteins, and also found in various plants.

Aromatin:—Pretended succedaneum for hops. Said to be finely scraped gentian root.

Aseptolin:—An aqueous solution of phenol and pilocarpine. Used in pulmonary tuberculosis.

Athanon:—A disinfectant.

Atropine Stearate:—$C_{17}H_{23}NO_3.C_{17}H_{35}COOH$. Applic. in 1 500 oily solution as substitute for Ol. Belladonna or Ol. Hyoscyami.

Bismal:—$4(C_{15}H_{12}O_{10})+3Bi(OH)_3$. Bismuth methylene-digallate. Intestinal astringent. Dose: 0.1–0.3 Gm. every 3 hours, or several times daily, in wafers or powder.

Bismuth Borophenate:—See Markasol.

Bismuth Loretinate:—Used as a surgical and intestinal antiseptic, and also in ophthalmology.

Boralid:—Mixture of equal parts of boric acid and acetanilid. Wound antiseptic.

Boricin:—A mixture of borax and boric acid.

Caffenol:—Algophene.

Calaya:—An extract made from the fruit of Anneslea febrifugo. Febrifuge, used in malaria. Dose: 2 Gm. every two hours.

Camphor, Resorcinated:—Compound of equal parts of camphor and resorcin melted together.

Camphor, Thymolated:—Mixture of equal parts of camphor and thymol melted together.

Cannabinol:—Active constituent of hemp.

Carissin:—Glucoside from the bark of Carissa ovata. Resembles strophanthin in action.

Ceral:—Copyrighted synonym of "Pasta Cerata Schleich."

Chinaphtol:—Quinaphtol. Quinine β naphtol- α monosulphonate. Intestinal antiseptic and antipyretic. Dose: 0.5 to 3 Gm. per day, in wafers.

Chinoform:—Quinoform. Compound of chincona extract with formaldehyde.

Chinosol:—$2(C_9H_6N.OS_2O_3K)+H_2O$. Antiseptic. Must not be confounded with Quinosol, known also as Kresochin, which is an entirely different preparation.

Chlorinium:—A mixture of sodium chloride and manganese binoxide, and a liquid, sulphuric acid, kept separately. For the extemporaneous preparation of chlorine gas for disinfection.

Chloro-naphtol:—Disinfectant. Non-poisonous substitute for carbolic acid, and said to be a combination of creosote with an alkali.

Cocaine Stearate:—$C_{17}H_{21}NO_4.C_{17}H_{35}COOH$. Used as a substitute for cocaine oleate.

Cocapyfine:—A mixture of cocaine and antipyrine.

Colligamen :—A name given to a variety of bandages, prepared with glycerin and a glycerin-zinc paste.

Cosmin :—Agathin.

Cupram :—A solution of copper carbonate in ammonia water, used as a fungicide.

Di-iodosalicylic Acid Ester :—An antiseptic, to be used instead of iodoform, and given internally instead of sodium salicylate and potassium iodide.

Dormitio :—A sedative, consisting of diluted alcohol-oil anise, extract lettuce, and sugar.

Duotal :—Guaiacol carbonate.

Didymin : — An organo-therapeutic preparation made from the epididymus of the ox. Possesses properties similar to those of spermine.

Ectasin :—See anectasin.

Eosote :—Creosote valerianate. Antitubercular. Dose : 0.2 Gm., increasing to 1.2 or 1.8 Gm. per day, in milk.

Epithema :—A local anesthetic for dentistry.

Erythrol Tetranitrate :—Used in cardiac affections instead of glonoin.

Ethylenediamine Cresol :—Non-poisonous disinfectant. Said to easily penetrate the skin.

Eucaine :—The "methyl ether of a benzoylated oxy-piperidinecarbonic acid." Local anesthetic.

Eucasin :—Casein-ammonia compound. Dietetic.

Eurythrol :—An aqueous extract of the spleen. Dose : 1 to 2 fl. dr. in a cup of hot water.

Fango :—Mud from the hot springs of Battaglia, Italy, used in gout, rheumatism, and female diseases, as a cataplasm.

Ferrostyptin :—Styptic and antiseptic. Dose : 0.3–0.5 Gm. (in Rhinol.).

Filmogen :—A protective vehicle for applying medicaments in skin diseases. Also known as Liquor Adhesivus.

Formaldehyde - Gelatin : — Glutol. Protective wound-antiseptic.

Formin : — Urotropin, Hexamethylenetetramine. Uric-acid solvent.

Formopyrine :—Combination of antipyrine with formaldehyde.

Frejaröl :— An ethereal oil obtained from the frejar tree ; odor like pepper ; used in the East Indies in skin diseases.

Gaultherase :—A special ferment that acts on the glucoside of plants producing methyl salicylate.

Gehöröl :—A mixture of oil of cajuput and expressed oil of almonds.

Gelanthum :—Vehicle in cutaneous disease, composed of glycerin, tragacanth, gelatin, and water. Recommended by Unna.

Geosote :—Guaiacol Valerianate. Antitubercular.

Germol :—Liquid preparation analogous to cresol. Antibactericide.

Glutoform :—A compound of gelatin and formaldehyde, differing from glutol.

Glutol :—See Formaldehyde-Gelatin.

Glybolid :—Paste made of equal parts of boralid and glycerin. Antiseptic.

Gonopepsin :—A gonorrheal injection, said to consist of pepsin, boric acid, infusion of cranberries, and water.

Guæthol :—Ethyl ether of pyrocatechin. Said to be superior to guaiacol.

Guaiacetin :—Pyrocatechin mono-acetate. Antitubercular. Dose : 0.5 Gm. several times daily.

Guaiacol-ethylene : — 2 ($C_6H_4.OCH_2.OCH_2$). Ethylene ether of guaiacol. Antitubercular Dose : 0.5 to 1 Gm. twice daily in pill or cachet.

Guaiacol-methylene Ether :—

Hemicranin :—A mixture of phenacetine, caffeine, and citric acid.

Hepaticine :—Proprietary liver regulator.

Hermitine :—Surgical antiseptic and disinfectant. Said to be an electrolyzed sea-water.

Holzin :—A 60% solution of formaldehyde gas in methyl alcohol. Disinfectant and antiseptic.

Holzinol :—A solution of formaldehyde gas in methyl alcohol containing a small proportion of menthol. Antiseptic and disinfectant.

Heparaden :— Lactose trituration of dried extract of liver substance, 1 Gm. representing 2 Gm. of liver. Employed in icterus. Dose : 6 to 10 Gm. daily.

Ilovit :—Cleanser for pipes and conduits of beer pumps, said to be impure caustic soda, sodium carbonate, and sodium chloride besides sulphates of alkalies, calcium carbonate, calcium sulphate, and iron.

Imidiod :—Non-poisonous antiseptic. Uses like iodoform.

Influenzin :—A mixture of phenacetin, caffeine, quinine salicylate, and sodium chloride, used in migraine.

Inosite : — Substance recently produced from "thyraden" (extract of fresh thyroid gland).

Intestin :—A combination of bismuth subnitrate, naphtalin, and benzoic acid. Intestinal antiseptic. Dose : 0.5–1 Gm.

Iodamylum :—Insoluble iodized starch.

Iodized Starch, Insoluble :—Surgical antiseptic.

Iodocin :—Antiseptic, analgesic, styptic, disinfectant, and deodorizer.

Iodoiodoformin :—Compound of iodine and iodoform. Antiseptic.

Iodophen :—Nosophen.

Iodophenol :— A solution of iodine in carbolic acid.

Iodothyrin : — Thyroiodin. A milk-sugar trituration of the active constituents of the thyroid gland. Dose : 0.3 to 0.5 Gm. 1 to 2 Gm. daily.

Isococaine :—Isoethylecgonin Benzoate.

Itrol :—Silver Citrate. External antiseptic. Applied in 1 to 2% ointments, or in 1:500 to 1:5000 solutions.

Itrosyl :—Concentrated spirit of nitrous ether.

Jecorin : — A substance containing sulphur and phosphorus, and found in the livers of horses, the liver and spleen of other animals, in the blood and muscles of horses, and also in the human brain.

Jecorin : — Substitute for cod-liver oil, composed of calcium chlorhydrophosphate, calcium lactophosphate, lactic acid, phosphoric acid, iodide, ferrous iodide, compound extract of artemisia, and fruit syrup.

Katharol : — A solution of hydrogen peroxide. Used as a mouth wash and as a wash in surgery.

Klemmolin :—Proprietary rheumatism-remedy.

Kosotoxin : — An active principle from Kousso (Koso). Strong muscle-poison.

Kresaprol :—Solution of cresols in sodium cresyloxylacetate solution.

Kresochin : — Quinosol. A neutral chinoline tricresylsulfonate. A disinfectant for surgical instruments. Bactericide. Applic. (Gynecol.) 0.1 to 2% solutions.

Lactyltropein :—A remedy used in asthmatic and cardiac affections.

Laureol:—A mixture of cocoanut oil and palm oil. Used as a substitute for butter and fat.

Lethin :—An alcoholic solution of camphor, acetic acid, etheral oils, and chloroform.

Levantin :—Non-irritant coffee-substitute.

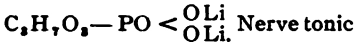
Lienaden :—Preparation made from the spleen. Used in leucæmia, anemia, etc. Dose: 10 to 15 Gm., with meals.

Liquor Adhesivus :—Filmogen.

Liquor Carnis Comp.:—See Virol.

Lithium Bitartrate :—Used in gout.

Lithium Glycerinophosphate :—


$C_3H_7O_3-PO<\substack{OLi\\OLi.}$ Nerve tonic. Dose: 0.5-1 Gm. several times a day in carbonated water.

Lithio-piperazine :—A combination of piperazine lithium. Uric-acid solvent.

Lychnol :—A concentrated fluid extract of white soap-root.

Magnesium Glycerinophosphate :—

$C_3H_7O_3-PO<\substack{O\\O}Mg.$

Magnesium Permanganate :— $Mg(MnO_4)_2 6H_2O$. Used instead of potassium permanganate. Disinfectant and deodorizer.

Malandrin :—A homeopathic remedy obtained from grease, and recommended as a preventive against variola.

Malarin :—$C_6H_4.OC_2H_5.N.C.CH_3.C_6H_5+H_2O$. Copyrighted name of acetophenonphenetid. Antipyretic, analgesic. Dose: 0.5 Gm.

Markasol:—Bismuth borophenate. $Bi_2O_2B(C_6H_5)(CO_2)+3H_2O$. Substitute for iodoform.

Marmorekin :—A new name for antistreptococcin.

Meditrina :—A concentrated "electrozone," used in leucorrhea and other female diseases. Germicide.

Medulladen:—Preparation made from red bone-marrow. Used in pernicious anemia, chlorosis, and neurasthenia. Dose: 6 to 9 Gm. per day.

Melol :—Disguised castor oil.

Mentho-Phenol :—Mixture of 1 part phenol and 3 parts menthol. Antiseptic and analgesic.

Mercuric Silicofluoride :—$HgSiF_6.HgO3H_2O$.

Mercurous Silicofluoride : — $Hg_2SiF_6 2H_2O$. Active antiseptic and bactericide for wounds, abscesses, etc. Applied in 1:1000 solution or 1:2000 ointment.

Migrosine :—Mixture of menthol and acetic ether, used in migraine.

Mildiol :—Mixture of creosote and some mineral oil, used as a disinfectant.

Monol :—Calcium permanganate. Used for sterilizing water. Disinfectant.

Morphine Stearate :—
$C_{17}H_{19}NO_3,C_{17}H_{35}COOH$.

Mucosolvene :—Diphtheria germicide.

Musin :—Proprietary cathartic, made from tamarinds.

Mydrol :—Iodo-methyl-phenyl-pyrazolon. Non-poisonous mydriatic.

Myelen:—An extract prepared from both red and white fresh marrow. Used in scrofula, necrosis, rachitis, anemia, etc.

Naphtol-Bismuth:—Orphol. Intestinal antiseptic.

Neuralgin :—Mixture of antifebrin, sodium salicylate, and caffeine. Antipyretic. Dose: 0.5-1 Gm.

Nervinum :—A remedy for gout, rheumatism, migraine, neuralgia, and sciatica.

Nutrose:—Sodium-casein. A nutritive possessing the power of replacing lost nitrogen as well as causing the formation of albumins in general.

Odol:—A mouth wash, composed of salol, saccharin, oil of peppermint, and alcohol.

Oöphorin :—An organo-therapeutic preparation made from the ovaries of cows and hogs.

Orphol:—New name for bismuth beta-naphtolate.

Ossagen :—Calcium salt of the fatty acids of red bone marrow. Used in rachitis and osteomalacia. Dose: 6 Gm. daily.

Ovariin :—An organo-therapeutic preparation made from the ovaries of cows. Used in ovarian affections. Dose: 1 to 1.5 Gm. 3 times a day, in pills or tablets.

Ovaraden :—An organo-therapeutic preparation from the ovaries of cows. Dose: 3 to 6 Gm. daily.

Oviprotogen:—A "methylene compound of albumin." Nutritive. To be added to milk, particularly for feeding infants. Used also hypodermically.

Oxin:—A saccharated beef extract.

Oxycamphor : — $C_8H_{14}.CHOH.CO$. An oxidation product of camphor. Used in dyspnea.

Oxyphenacetin Salicylate. Antipyretic and anodyne.

Palpebrine :—A remedy used in external eye diseases, especially conjunctiva, and consisting of boric acid, mercuric chloride, zinc sulphate, and glycerin. Antiseptic.

Pancreaden :—Preparation made from the pancreas, used in diabetes mellitus. Dose: 10 to 15 Gm. daily.

Paraplast :—Plaster mass, consisting of caoutchouc, lanolin, resin, and gum dammar, spread on fine, thick cotton web.

Pellotine :—$C_{13}H_{19}NO_3$. Alkaloid obtained from *Anhalonium Williamsi* (Echinocactus Williamsi Lem.). Hypnotic. Dose (of hydrochlorate): 0.04 to 0.06 Gm.

Peronin :—Substitute for morphine, similar to codeine.

Pertussin :—A saccharine extract of thyme, used in whooping-cough.

Phenantipyrine :—Antipyretic used in typhoid, rheumatism, and pneumonia.

Phenolin :—A mixture of crude cresols and potash soap. Antiseptic. Used like lysol.

Phenylquinaldine :—$C_9H_5(C_6H_5)$ N. Antiperiodic. Local irritant. Dose: 0.1–0.2 Gm., but may be advanced to 0.6–0.8 Gm.

Pilagine :—Remedy for sea-sickness.

Pincoline : — Proprietary aromatic, antiseptic, deodorizer, and non-poisonous disinfectant.

Porcosan :—A proprietary remedy for preventing erysipelas.

Probat :—A mixture of sodium sulphite, sodium sulphate, sodium chloride, and sugar. Meat preservative.

Prostaden :—Preparation made from the prostate gland, used in prostatic hypertrophy. Dose: 2 Gm. daily.

Protogen :—A "methylene compound of albumin."

Protectio :—Remedy for colds and diphtheria.

Protonuclein :—Biological restorative.

Pulmonin :—An organo-therapeutic preparation made from calves' lungs, and used in pulmonary affections.

Pulvis Listeri :—See Chinolin.

Pyoktanin-Mercury :—Compound of pyoktanin and mercury. Antiseptic. Applied in 1:200 solution, or with equal parts of starch.

Pyrantin :—$(CH_2.CO)_2.N.C_6H_4OC_2H_5$. Paraethoxylphenylsuccinimide. Antipyretic. Dose: 1 to 3 Gm. daily.

Pyrantin, Soluble :—Sodium salt of para-ethoxylphenylsuccinamic acid. Antipyretic. Dose: 1 to 3 Gm. daily.

Pyrazole :—Febrifuge, cardiac stimulant, stomachic tonic in nervous disease.

Pyrolignine :—An antipyretic.

Quinacetine Sulphate :—$(C_{27}H_{21}NO_2)_2H_2SO_4.H_2O$. Antipyretic and anodyne. Dose: 5 to 15 grn.

Quinalgen :—Analgen.

Quinimel :—Preparation for disguising the bitterness of quinine.

Quinosol :—See Kresochin.

Quinine Sulphoichthyolate : — A combination possessing the combined properties of the components, and is given in pill form.

Quinoform :—Chinoform.

Quionin :—"Tasteless Quinine." A mixture of cinchona alkaloids (principally cinchonidine), occurring in granular masses coated with resin.

Renaden :—Preparation made from the kidneys, used in chronic nephritis. Dose: 6 to 8 Gm. daily.

Resacetin :—A salt of oxyphenyl-acetic acid.

Resinol :—"Unguentum Resinol." A proprietary ointment, used as an antipruritic, antiseptic, local antipyretic, sedative, and skin nutrient.

Resorcin Camphor :—A mixture of resorcin camphor.

Rhinolin :—"Pulvis Listeri." Antiseptic, analgesic, and tonic.

Robigin :—A mixture of oxalic acid, hydrochloric acid, and water, for removing rust spots from linen.

Rosbonit :—Anticorrosive.

Roseline :—Meat-preservative.

Sagradin :—A 20 per cent. solution of bitterless extract of cascara sagrada, with spirit of peppermint.

Salhypnone :—Benzoylmethylsalicylic ether. Antiseptic.

Salicol :—A mixture of methyl alcohol, salicylic acid, oil wintergreen, and water.

Saliformin :—Formin (Hexamethylenetetramine) salicylate. Uric-acid solvent, like formin.

Salus :—A hygienic, for rheumatism and neuralgia.

Sambucin :—An alcoholic fluid extract of the bark of sambucus nigra. Diuretic.

Sanoform : — $C_6H_2.COOCH_3.I_2.OH$. The methyl ether of di-iodo salicylic acid. Contains 62.7 per cent. of iodine. Non-poisonous siccative antiseptic.

Scriptol :—A concentrated ink extract.

Sculcopine :—A preparation of hydrastis and scullcap, used as a local astringent.

Séribèle : — Tenifuge, consisting of seeds and root-bark of Connerus Africanus. Dose: 60 Gm. in decoct.

Solution Aluminum Oleate, Ethereal :—Substitute for traumaticin.

Sphygmogenin :—An organo-therapeutic preparation, made from the suprarenal capsule.

Spinol :—A liquid, saccharine extract of young, fresh spinach leaves. Used in the spinach cure for children.

Splenin : — An organo-therapeutic preparation made from the spleen.

Steresol :—Saturated solution of formaldehyde gas in a milk-sugar solution. Antiseptic for internal use. Dose: 0.015–0.06 Gm., increasing. Used in tuberculosis, erysipelas, diphtheria, etc.

Sthavara :—Antiseptic for hypodermic treatment of hernia.

Sulphurine :—"A preparation of some of the higher sulphides of sodium and potassium with sulphur."

Suprarenaden :—Preparation made from the suprarenal capsules, and used in Addison's disease, menopause, neurasthenia, and diabetes insipidus. Dose: 1 to 1.5 Gm. daily.

Tannalbin :—Modified tannin albuminate. Intestinal astringent. Dose: 4 Gm. daily.

Tannoform :—Condensation product of tannin and formaldehyde. $C_{29}H_{20}O_{18}$. Siccative antiseptic and antihidrotic.

Tannosal :—Tannic acid ester of creosote, containing 60 per cent. of cresote. Antitubercular. Dose: 1 to 2 Gm. 3 times a day, in aqueous solution.

Testaden :—Preparation made from the testicles of cattle. Used in affections of the spinal cord, and in nervous troubles. Dose: 6 to 8 Gm. daily.

Testidin :—An alcoholic extract prepared from the testes of cattle.

Testin :—An organo-therapeutic preparation made from the testes of cattle.

Tetra-allyammonium Alum : — $N(C_3H_5)_4.Al_2(SO_4)_3+12A_2O$. A uric-acid solvent.

Theobromine Salicylate :—True salt. $C_7H_8N_4O_2.COOC._6H_4OH$. Stable diuretic.

Thyraden :—Lactose trituration of dried extract thyroid gland, 1 part representing 2 parts fresh gland. Alterative in myxœdema, cretinism, struma, and certain chronic skin diseases. Dose: 1 to 1.5 Gm. per day.

Thyroiodin :—See Iodothyrin.

Treuenit :—Food-preservative, composed chiefly of sodium bisulphite.

Tylophorine :—An emetic.

Unguentum Durum :—Ointment base, consisting of solid paraffin, lanolin, and liquid paraffin.

Unguentum Molle :—Ointment base, consisting of solid paraffin, lanolin, and liquid paraffin.

Unguentum Psoriaticum :—An ointment composed of chrysarobin, ichthyol, and zymoidin ointment.

Urea, Pure :—Uric acid solvent. Dose: 0.5 to 2 Gm.

Urisolvin :—A compound of urea and lithium citrate. Uric-acid solvent and diuretic. Dose: 2 Gm. (?) every 3 hours in carbonated water.

Virol :—Liquor Carnis Comp. A substitute for cod-liver oil and representing the chief constituents of meat.

Vitogen :—A surgical dressing, to be used instead of iodoform. Aseptic, antiseptic, deodorizer, germicide, and non-toxic, inodorous disinfectant.

Xeroform :—Synonym of tribromphenol-bismuth.

Xylochloral :—Compound of xylose and chloral.

Zomakyne : — Proprietary antipyretic and analgesic.

Zymoidin : — A mixture of various antiseptics. Used in gonorrhea.

REVIEWS

The Pathology and Surgical Treatment of Tumors.—By N. Senn, M.D., Ph.D., LL.D. Pp. 710. Phila.: W. B. Saunders

This book is most opportune. The whole basis of his structure is revealed in the preface when he says that "the increase in volume caused by a tumor is due entirely to erratic cell-growth from a matrix of embryonal cells of congenital or post-natal origin. The enlargement of a part or an organ caused by chronic inflammation, which so often simulates a tumor, is due to proliferation of pre-existing mature cells acted upon by pathogenic micro-organisms or their toxines, and to the vascular changes and cell migration characteristic of inflammation; while a retention cyst essentially consists of an accumulation of a physiological secretion in a pre-formed glandular space, the result of a mechanical obstruction."

The author says that "the microbic origin of tumors is briefly disposed of, as it has not been established by any convincing experimental investigations or clinical observations." The latter part of this observation is undoubtedly true, but we are far from agreeing with him that this matter should be dismissed "briefly." On the contrary, we believe the time will come when it will be discovered that there is just as much a causative agent in the production of the malignant tumor as in the inflammatory swelling, and then, as the author says, "such tumors would have to be eliminated from this group of pathological products and be classified with the granulomata."

In addition, then, to Cohnheim's theory the author claims that "the essential tumor-matrix may be composed of embryonic cells, the offspring of mature cells which for some reason have failed to undergo transformation into tissue of a higher type, and which may remain in a latent immature state for an indefinite period of time, to become, under the influence of either hereditary or acquired exciting causes, the essential starting point of a tumor." A strong suggestion of treatment is contained in the simple statement that "A tumor never disappears except by removal or destruction."

The book is well written and important statements are italicized. While this detracts from the appearance of the page, it adds to the ease with which the salient points are grasped.

We should advise everybody who expects to be called upon to diagnose different neoplasms in the human body, to obtain and carefully study the whole work; for while there may be parts where he may not be in sympathy with the views expressed, the work is so evidently honest, and the clinical portions so distinctly portrayed, that we can well overlook differences of opinion in theory.

The Diseases of Infancy and Childhood.—For Use of Students and Practitioners of Medicine; By L. Emmett Holt, A.M., M.D., Professor of Diseases of Children in the New York Polyclinic; Attending Physician to the Nursery and Child's and the Babies' Hospitals, New York; Consulting Physician to the New York Infant Asylum, and to the Hospital for Ruptured and Crippled. With Two Hundred Illustrations, including Seven Colored Plates. New York: D. Appleton & Co., 1897. Price $6.00.

This work is every sense of the word a *new* book, for, while the best work of other authors in this and other countries has been drawn upon, especially that in the form of monographs and in the files of pediatric literature, the majority is derived from the author's own clinical observations. Obsolete dicta handed down from textbook to textbook are here conspicuously absent, and nothing has been accepted which has not been carefully tested. Statistics have been liberally compiled from the records of cases treated in dispensaries and children's hospitals under the supervision of the author. In this way a class of material of the greatest value to the practitioner has been rescued from oblivion, so that what would ordinarily contribute only to the knowledge of the few has been rendered of permanent value to the many. In scarcely any other branch of medical science has such definite progress been made during the last decade.

Dr. Holt has long been known as one of the most successful of clinical teachers. His knowledge of the needs of the student and practitioner, as gained from the experience of the class room, has evidently been used to good advantage in the preparation of these pages.

The allotment of space to the several subjects is very satisfactory; affections peculiar to childhood receiving the fullest attention, while those which are common to adult life are treated so as to emphasize the distinctive features of the infantile types.

Part I is devoted to the Hygiene and General Care of Infants and Young Children; the Growth and Development of the Body; and the Peculiarities of Disease. This includes minute instructions for the care of the infant from the moment of birth; the care of premature and delicate infants; tables of measurments of the height, and of the circumference of the head and chest at different ages; and a chart of the normal curve of the child's weight. Under the heading of the Peculiarities of Disease in Children we have a new feature in a discussion of the etiology, symptomatology, diagnosis, pathology and prophylaxis of disease.

Under the caption of Therapeutics will be found a discussion of the use of antipyretics, stimulants, tonics, opiates, anodynes, etc., and the practical application of baths and such procedures as nasal syringing, stomach washing, irrigations of the colon and the administration of enemata — an arrangement which allows of a much more detailed and comprehensive treatment of these subjects than if it were attempted in connection with the diseased conditions to which they are applicable.

Part II deals with the Diseases of the Newly-born, including the pathological findings in such infants as die soon after birth. Among these, Congenital Atelectases and Inanition fever are peculiarly worthy of attention. In the section upon Nutrition there is a complete digest of our present knowledge of woman's and cow's milk, a valuable discussion of their chemical constituents and the parts which they play in the infant economy, with carefully prepared tables of the hours and intervals of feeding, the quantities required at different ages, and the methods of preparing food and modifying milk for artificial feeding.

In the pages upon Artificial Feeding versus Wet-nursing; the Symptoms of Inadequate Nursing; the Modification of Milk at Home; Feeding in Difficult Cases, during the first and second years and during acute illness—the author displays great originality.

Under the title, The Derangements of Nutrition, are discussed Acute Inanition, Malnutrition and Marasmus, conditions which are rightly stated to differ rather in degree than in kind. Classed as Diseases due to Faulty Nutrition we find scurvy and rickets. In natural sequence follow Diseases of the Digestive Organs, including those of the mouth, tongue, pharynx, tonsils, esophagus and stomach.

The various causes of Vomiting are discussed under that head, and Cyclic Vomiting receives adequate attention for the first time to our knowledge, in any textbook.

In the pages devoted to the Diseases of the Lungs we have also another article of notable originality, in which the author's practical knowledge of morbid anatomy and his close chemical observation are combined to give us a description which will be read with the deepest interest and profit by every thoughtful physician.

The Diseases of the Heart and of the Urogenital System are followed by those of the Nervous System.

The diseases of the Blood, Lymph Nodes, Bones and Skin are allotted ninety pages, and are followed by the Specific Infectious Diseases. The chapters upon Diphtheria and Pseudo-diphtheria will probably be the first to which many will turn, and they will not be disappointed, for the date at which the volume appears allows the author to speak judicially, after a careful weighing of the cumulative evidence, in favor of the use of diphtheria antitoxin in hospitals and municipalities throughout the world, and more especially after the important publication of the collective report of the American Pediatric Associations upon its use in private practice.

The subject of Tuberculosis in its chief manifestations is dealt with comprehensively towards the end of the volume. The description of the lesions and chemical forms is one of the most valuable features of the book.

The general appearance of the book is up to the usual high standard of the publishers. The illustrations are well chosen, not too numerous and largely from original sources; where they have been borrowed, proper credit has been duly given. The index has been carefully prepared so as to be not alone a table of contents, but also an aid to the student and diagnostician.

It is not venturing too much, after a careful perusal of these pages, to predict for this volume a pre-eminent and lasting position among the treatises upon this subject. We heartily recommend that it find a place not only in the library of every physician, but wide open and at the elbow of every man who desires to deal intelligently with the problems which confront him in the treatment of infants and children entrusted to his care.

The Practice of Medicine. — A Textbook for Practitioners and Students with Especial Reference to Diagnosis and Treatment. By James Tyson, M. D., Professor of Clinical Medicine in the University of Pennsylvania, and Physician to the Hospital of the University, etc. 8vo., pp. 1184. Illustrated. Phila.: P. Blakiston, Son & Co., 1012 Walnut street. 1896. Price, Cloth, $5.50.

The author has long contemplated the present work and finished it after several years' labor. It represents almost purely personal effort, but is not based on his personal practice only. In these days of specialization this would be impossible, though with most of even the rare forms of disease in every section he has had no small amount of experience. In filling in the gaps of his own knowledge he has used that of others, and made suitable acknowledgment to the proper sources. Illustrations seemed necessary to explain the text and to render clear the treatment described. Those introduced have been well selected and fully meet the requirements. The metric and English systems of weights and measures have been indicated throughout.

The work opens with an interesting chapter upon Typhoid Fever, in which the history is charmingly presented. The part which American physicians have taken in establishing the dissimilarity of typhus fever and typhoid is considered, as is also the method of Elsner for diagnosing the typhoid bacillus. Widal's method of diagnosis is not given, however. The statements in reference to sarcomata and carcinomata of the liver are not quite up to date. We think the skin and urine in cases of typhoid fever should be mentioned as a probable source of infection. On page 296, no mention is made of Dr. R. T. Morris' admirable treatise on appendicitis.

This volume will, no doubt, take a high position among American textbooks on the practice of medicine.

CORRESPONDENCE

An Interesting Case

To the Editor of the A. M.-S. BULLETIN:

The following case, somewhat unique in its course and ending, may be of interest to the many readers of your valuable journal:

Patient male, age 16 years, college student, healthy, good parentage. One year ago had a severe attack of entero-colitis; recovery prompt and complete.

November 27—Was taken suddenly with two or more evacuations from bowels, accompanied with pain, tenesmic in character, which seemed to yield readily to morphia.

Patient residing in Amboy, Dr. W. H. Haifley, being resident there, was called, and the following conditions noted, with treatment. Diagnosis, namely, chilliness, sub-normal temperature, uneasiness, pain in bowels.

November 28—Symptoms intensified; some nausea and desire to have stool.

Suspicious now of some obstruction, small doses of magnesia calcis were given, when vomiting occurred—at first a greenish yellow fluid, large in quantity; finally, becoming stercoraceous in character.

Condition becoming more grave, various remedies and means were utilized, as kneading of abdomen, changing of positions, relaxants, enemas of water, soap, oil, etc.; but all availed nothing.

Deeming laparotomy to be the only hope in the case, Dr. M. C. Kimball, of Converse, Ind., was called, December 4, in consultation.

The family, unwilling to consent to an operation, was compelled, as a "dernier resort," to continue treatment and await results.

Patient's temperature was now 99; pulse 90; general stasis of capillary system; tongue heavily furred; mind clear; bowels greatly distended; tympanites; localized tenderness over right umbilical region; some desire to go to stool. Could not discover any knuckle or hardness over any portion of abdomen. We now gave hypodermics of morphine sul. 1¼ gr., atropin sul. 1-100 gr., sig., every 3 hours, and ipecac, fl. ext. 1 drop., sig. every hour per orem.

December 3, tweny-four hours later—Condition more grave; talks incoherently; temperature 100; pulse 96. Gave enema of hot water, five quarts, which soon was voided without any results, followed with ipecac fl. ext. 1 dr., water 1 pint, which was retained; continued hypodermics (minus the atropin), and the ipecac per orem; also gave enemas of milk 1 pint, table salt 1 teaspoonful, every three hours, and no fluids by mouth except malted milk, 2 teaspoonfuls every two hours.

At 11 P. M. same day the doctor thought to introduce his finger into rectum, when one of the most rigid sphincters was encountered, which by persistence was overcome, when immediately there were three large stools.

The spell was broken; recovery rapid and complete; except when able to go to table, he over indulged, when there was fear of recurrent trouble, but soon yielded by anodynes and fomentations.

Was it intussusception, spasmodic ileus, or recent bands of adhesions from entero-colitis? M. C. KIMBALL, M. D.

Converse, Ind.

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According to Chevrenil, 1,000 parts of good bouillon contain hardly 15 parts of soluble organic matter, and from 15 to 20 parts of salts, soluble and insoluble. The first-mentioned represents that which the ancients called extractive matter of meat, or "osmazone." From this it can be seen that the best bouillon is inferior to milk as a nutritive substance.—*La Clinique.*

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Editor: ROBERT G. ECCLES, M.D.

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EDITOR'S NOTES

Dr. Macnaughton Jones reports finding a sprouting hayseed in the meatus of a patient whom he was treating for deafness of the middle ear.

According to the *National Medical Review*, the night sweats of phthisis can be checked in the great majority of cases by doses of twenty or thirty drops of the fluid extract of hydrastis, one, two or three times daily.

What would an American physician think of a patient who should offer him twelve cents for a call, and a dollar and a half for an obstetric case with attendance for six days? This is the stage to which practice has come in some parts of England. Lodge service and dispensary service have done it.

The *British Medical Journal* gives a striking evidence of the survival of superstitious methods of treatment among the laity by pointing out the fact that in some parts of England poultices of cowdung are applied as a cure for abscess of the breast. In our own country, cuts are frequently covered with cobwebs under the belief that they check the flow of blood and cure the wound.

M. Berard, in *L'Abeille Medicale*, reports a patient suffering from cystocele, rectocele and uterine prolapse, who for twenty years used a lemon successfully as a pessary. It was odorless and easily introduced and withdrawn.

The Indiana Court of Appeals has lately decided that railway companies, as common carriers, are not compelled to carry people suffering from contagious diseases or those that are helpless from disease. Such as can care for themselves are entitled to passage, and the company must use ordinary care in transporting and give them reasonable assistance in getting on and off of the cars.

The attitude of our esteemed contemporaries, the *Medical Record* and the *American Journal of Obstetrics*, in refusing to permit Dr. Geo. M. Gould the privilege of abstracting the papers published by them for his "Year Book," seems to us wholly indefensible. If they have any excuse for such conduct we would like to know its nature. Surely they are not trying to play dog in the manger.

Dr. Wm. Osler says that the medical men of Maryland could, by the aid of the public and the politicians, stamp out typhoid fever from that State in less than three years. Perhaps the doctor has reckoned upon too short a period for so herculean a task, even under the favorable terms he has named. Unfortunately, however, the great truth remains that the public and the politicians are to blame for the continuance of this dreadful scourge among us. They do not really believe what medical men tell them about it.

Experimenters are discovering that the Roentgen rays are quite complex. One electrician reports in *Nature* that he has differentiated them so as to be quite sure of three distinct kinds. To one kind wood is transparent and flesh opaque. To another kind bone is almost as transparent as flesh. The suggestion has been made that the difference is due to frequency rather than quality. Another experimenter has succeeded in taking photographs through a plate of iron eight inches thick.

Board of Health statistics have begun to show favor to lady bicyclers. The Secretary of the Massachusetts Board gives figures that show, that *pari passu* with the development of the so-called bicycle craze among women has come an equally steady decrease in the number of deaths among them from phthisis. We hope that the boards of health of other States will look into this matter and see if the results are the same everywhere. It is quite likely that the taking of more outdoor exercise by women has led to this good result.

Not long ago a paper on "Homicide in the United States" was published in *The Journal of the American Medical Association. The Medical Press and Circular*, of London, England, commenting thereon, says: "Comparing this rate with the rate in other countries, it has been ascertained that homicide is a fourth higher in the United States than in Italy, nearly twice that of Spain, nearly five times that of Austria, nine times that of France, and nearly twenty times that of England, Scotland and Germany." This is certainly not a flattering showing for our country.

Formaldehyd is at present the most popular antiseptic and disinfectant. It is usually found in the market as a forty per cent. solution. Eight to ten per cent. destroys the spores of micro-organisms in ten minutes. A one per cent. solution destroys cultures within an hour, and disinfects and renders feces odorless. A three per cent. solution will remove all infection from the hands, and one part in ten thousand prevents the growth of pathogenic micro-organisms. Our German, English, French, Spanish and American exchanges are sounding its praises.

The succulent bivalve is now coming in for severe condemnation both in this country and Europe. We have always been led to believe that the oyster was an exceedingly wholesome article of diet in all months the name of which contained an "R." It now appears that this is another superstition, and that there is danger in their use at all times. Those who raise them are to blame for this. Having discovered that they thrive best and grow largest where the greatest amount of sewage can be found, these gentlemen now deliberately seek to fatten, and thereby increase profits, by growing them in the richest nests of typhoid fever and cholera germs. How many of the great number of deaths that annually occur from typhoid fever in our large cities are due to this cause?

The Pasteur Monument Committee of the United States has issued the following notice that will interest many of our readers:

"It has been decided to erect in one of the squares of Paris a monument to the memory of M. Pasteur. Statues or busts will also no doubt be located at his birthplace and in other cities. The Paris committee has, however, wisely determined that the statue obtained through international effort shall be located at Paris, where it will be seen by the greatest number of his admirers from other lands.

"The Paris committee has kindly extended the opportunity to the people of the United States to assist in this tribute of appreciation and love and have authorized the organization of the Pasteur Monument Committee of the United States. The members of this committee gladly accept the privilege of organizing the subscription, and of receiving and transmitting the funds which are raised. We believe it is unnecessary to urge any one to subscribe. The contributions of Pasteur to science and to the cause of humanity were so extraordinary, and are so well known and so thoroughly appreciated in America, that our people only need the opportunity in order to demonstrate their deep interest.

"No one is expected to subscribe an amount so large that it will detract in the least from the pleasure of giving. A large number of small subscriptions freely contributed and showing the popular appreciation of this eminent Frenchman is what we most desire.

"The amounts thus far subscribed by individuals vary from fifty (50) cents to ten (10) dollars. It is hoped that no one who is interested will hesitate to place his name upon the list because he cannot give the maximum amount.

All contributions sent to us for this worthy object will be forwarded to the committee at Washington.

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Women expect to be legally admitted to all degrees, except theology, in the universities of Austria during the present year, and ladies who have graduated in medicine in foreign countries are to be allowed to practice there by passing an examination.

At a late meeting of the Medico-Psychological Association of Great Britain, the question of medical secrecy was declared more important to those dealing with insane people than to the general profession that dealt with the sane. Sometimes the bare fact that a business man had consulted them at all would, if revealed, ruin him for life. They held that "In the opinion of this association, information afforded by a sane patient for a better understanding or treatment of his malady, to a medical man is sacred, and ought not to be revealed without the consent of the patient." This rule, however, they held could not apply in cases of insanity, where the patient was deliberately plotting murder or some other crime. A violation of confidence in such a case would be justifiable. In cases where delicate family affairs are revealed by the insane, strict secrecy should be the rule. Information gained from the insane should be revealed only when it is expedient for the public safety or the patient's own welfare.—*Brit. Med. Jour.*

NEWS

Reading, Pa., physicians are going to have a new medical library.

Dr. William Pepper has succeeded in securing a skiagraph of an aneurism.

The Minneapolis (Minn.) College of Physicians is promised a new building within a year.

Two Dartmouth College students were lately fined $2,000 and $1,500, respectively, for grave-robbing.

The President of the Republic of Brazil is a physician of note and President of the Bahia Medical College.

Dr. W. H. Prescott has been appointed medical inspector of the Department of Public Institutions of Boston, Mass.

The Detroit (Mich.) College of Medicine was destroyed on December 17th by a fire that started in the chemical laboratory.

A collection of 2,200 brains has been presented to the Faculty of Medicine of Paris by Dr. Luys, of the Salpetière Hospital.

The health officers of San Francisco say that diphtheria is epidemic there. Most of the doctors of that city are afraid of antitoxin.

The drinking cup as a carrier of contagious disease among school children, is now under consideration by the New York Board of Health.

At a girl's boarding school in Limerick, Ireland, 74 nuns and a number of girl pupils were poisoned by eating custard that contained stale eggs.

The business men of Hot Springs, Ark., are protesting against the closing of the United States Army and Navy Hospital by Secretary Lamont.

Dr. A. W. Wilmarth, of the Norristown (Pa.) Insane Hospital, has been put in charge of the Chippewa Falls (Wis.) Home for Feeble Minded.

The Cape Government has engaged Doctors Koch and Kohlstock to go to Capetown, establish a laboratory and subdue an outbreak of rinderpest.

An epidemic of influenza and typhus has broken out in Austria. In Pola nearly every home is said to suffer from one or other of these diseases.

Dr. L. E. Dawson, of Creede, Col., surgeon of the Denver & Rio Grande Railway, has offered his services as regiment surgeon of Cuban volunteers.

Dr. Howard Kelly, of the Johns Hopkins University, is taking a vacation in the Far West. Failing health compels him to retire from active service for a year.

The physicians of Colorado are seeking to have the Legislature of that State amend the laws so as to protect medical men from trumped-up malpractice suits.

The Atlantic (N. J.) County Medical Society is going to invite the American Medical Association, during its next meeting at Philadelphia, to pay them a visit.

The Italian Government has conferred on Dr. Behring the honor of the Grand Cordon of the Crown of Italy for his discovery of anti-diphtheritic serum.

Warmed and ventilated incubators for sickly babies can now be hired in Berlin, on a request signed by a medical man, at from eight to fifteen dollars per month.

The German Hospital of New York has been remembered in the will of the late William Steinway, former head of the Steinway Piano Company, to the amount of $3,000.

Dr. S. H. Durjon, of the Boston Board of Health, says that in the near future, in times of threatened epidemic and during epidemics, all laundry washing will be disinfected.

On January 1st the London Asylums Board stopped their arrangements for laboratory work on diagnosing diphtheria at the Royal Colleges of Physicians and Surgeons.

The professorship of Bacteriology and Pathology in the University of Missouri has lately been given to Dr. B. Meade Bolton, formerly of the Philadelphia, Pa., Board of Health.

Psychical epilepsy of a hereditary type was the plea on which Maria Barberi escaped execution for the murder of her lover. Had such a plea been properly supported before a scientific jury, they would have had her electrocuted as too dangerous a person to be at large.

The "George L. Harrison Memorial House" of the Episcopal Hospital of Philadelphia, has received an additional $150,000 from the children of the late George Lieb Harrison.

A mother ten years and two months old with a plump healthy baby is reported by the *American Journal of Surgery and Gynecology* as probably the youngest yet heard from.

Southern Russia is being scourged by severe epidemics of scarlet fever and Asiatic cholera. The schools have been closed and cholera barracks are being erected in a number of cities.

The British Medical Association and the British Association for the Advancement of Science have both agreed to hold their annual meetings this year in Montreal, Can., next August.

At the late semi-annual meeting of the Delaware District Medical Association at Anderson, Ind., Professor Vaughn, of the University of Michigan, spoke on "Public Health and Sanitation."

The medical men of Great Britain have raised a large fund to defray the expenses of Dr. Cullingworth in his recent trial. The sympathy for him among his professional brethren is naturally very strong.

The wards of the Kings County, New York, Public Hospital are intended to accommodate only four hundred patients, but the overcrowding is so great that seven hundred are forced into every ward.

The Allegheny County Society and the State Medical Society of Pennsylvania are seeking to have a law passed to have all executions of murderers in that State done by asphyxiation. The gas will be turned in upon them in a close cell.

The last volume of the proceedings of the Medical Section of the Royal Prussian Ministry of War contains an excellent skiagraph of a fetus *in utero* at the fifth month. The exact position and the stage of ossification of the skeleton are clearly seen.

The Medical Board of the Sheltering Guardian Orphan Asylum of New York, has sent out a disclaimer of all responsibility in connection with the recently issued medical report of that institution. They say it was made without their knowledge or consent.

Vaccination was the topic of debate at a recent meeting of The New York Medico-Legal Society. They had a lively time trying to find out whether or not vaccination should be compulsory. Prominent jurors and anti-vaccinators united in the debate with regular physicians.

The physicians of Santa Clara County, Cal., have begun a crusade against lodge doctors. They are pledging themselves against rendering professional services to societies at a stipulated per capita per annum. A movement of the same kind began in Cork, Ireland, some time ago.

The bakeries of New York City are being investigated by The Woman's Health Protective Association. They have found that 1,375 bakers out of a total of 5,207 are on the sick list with tuberculosis, pneumonia and unclean and immoral diseases, and that many bakeries are extremely foul.

Dr. Hare reports in the *Pioneer Mail* that of the coolie laborers on the railway from Assam to Burmah via the Hukong Valley, only 2.55 per cent. of those inoculated with cholera virus died from cholera, while 19 per cent. of those not so inoculated perished when the conditions were otherwise identical with both.

A national memorial monument to the memory of Dr. Edward Jenner is likely to be erected before long in England. Last month a large meeting was held at St. George's Hospital, London, to discuss the matter, where Sir Joseph Lister presided, and at which most of the leading medical men of England were present.

On January 16th, at 10 A. M., the New York City Civil Service Commission will hold a competitive examination for the position of Medical School Inspector, Health Department. For particulars address S. William Briscoe, Secretary, New York City Civil Service Commission, New Criminal Court Building, New York City.

The New York Board of Health is putting up vaccine virus in liquid form. The capillary tubes containing it are supplied to public institutions free of charge and to medical men at a low price. In using it the usual form of scarification is adopted, and the drop of virus from the tube is rubbed in with a small strip of wood that accompanies it.

The amount of sickness in the Spanish army in Cuba is so great that every hospital in Havana is over-crowded, and General Weyler has telegraphed to Madrid that many more surgeons are needed there immediately.

The Kentucky Legislature has imposed a graded income tax on all medical men practicing in that State. All whose incomes amount to less than $2,000 per year must pay $10 per year; all of $10,000 or more must pay $1,000. Intermediate rates are fixed on incomes between these extremes. The profession is up in arms against the law and propose to test its constitutionality.

Three important committees were appointed by the Medical Society of the County of New York at its last meeting, and it is to be hoped that good service will be obtained from them. The first is to make a report on the abuse of medical charity; the second to see that no bills pass the legislature detrimental to public health; and the third is to draft a bill for presentation at Albany, abolishing the clause in the present law that prohibits a physician being President of the Board of Health.

The American National Committee of the Twelth International Medical Congress, which meets in Moscow, Russia, on August 19 to 27, 1897, is composed of the following well-known physicians: J. S. Billings, New York; F. J. Shepherd, M.D., Montreal; Geo. B. Shattuck, M.D., Boston; W. S. Thayer, M.D., Baltimore; Geo. F. Shrady, M.D., New York; Frank P. Foster, M.D., New York; Charles A. L. Reed, M.D., Cincinnati; S. Weir Mitchell, M.D., Philadelphia; A. Jacobi, M.D., Chairman, 110 West Thirty-fourth street, New York.

There were three fires in hospitals in Greater New York Christmas morning. The first was at the New York Polyclinic Hospital, the building of which was nearly consumed. Nearly all the patients were gotten out in safety, taken to a nearby hotel, and later transferred to various hospitals about the city. The second fire took place at St. John's Guild Free Hospital for Children. Preparations were made to leave in a hurry, but the fire was extinquished before much damage was done. The third conflagration took place at the Brooklyn Orphan Asylum. It was occasioned by the clothing of one of the inmates igniting, through playing with a burning gas jet. There was considerable excitement in the building, but it was soon allayed by the matron and her assistants, and the flames were extinguished.

Dr. Louis Bell communicates to the *Electrical World* the results of experiments on a patient who was blind from paralysis of the optic nerve. Using the apparatus necessary for the production of Roentgen rays at a couple of feet from the tube, he could describe correctly the dimension and shape of the illuminated era and tell of the flickering of the light. Unlike Roentgen rays, however, these were cut off from him by cardboard as perfectly as by metal. He could distinguish the shadows of various forms and letters cut out of cardboard.

The remains of Prof. Louis Pasteur, the eminent bacteriologist, received their final entombment in the grounds of the Pasteur Institute on Saturday, December 26th. After his death on September 28, 1895, the body was placed in the Cathedral of Notre Dame. It was the intent of the Pasteur family to have this interment occur on the anniversary of his birth, December 27th, but as it occurred on Sunday, the day previous had to be chosen for the public entombment. Many distinguished men were present, including Premier Meline, President Faure, M. Rambaud, M. Bodin, Dr. Evans, Sir Dyce Duckworth and others. The interior of the new tomb is decorated with symbolic relief figures in marble and gold mosaic, representing his various important researches, while the center is occupied by a handsome porphyry sarcophagus.

New York city has followed in the wake of Boston in appointing medical inspectors of public, parochial and private schools for the purpose of reducing the number of cases of contagious diseases. Every child is to be examined daily, and when absent because of sickness, the nature of the sickness will be investigated. The press reports say that many prominent physicians have applied for appointment on the staff. The office of inspector is worth $300 a year. Among the applicants for this position is a professor in one of the medical colleges. The applicants for appointment on the staff are of both sexes, but President Wilson will give preference to the summer corps of physicians. Provision is made for a staff of 150 at $30 a month. The chief inspector will receive $2,500 a year. Competitive examinations will determine who are to have the places. President Wilson recommends that the summer corps be not required to pass the examination. He will also recommend that the competition be by districts, so that the physicians appointed be residents of the districts in which they are to serve.

OBITUARY

Dr. C. L. Fisk, the oldest physician in Greenfield, Mass., on December 19th, aged 92 years.

Dr. Chas. Heitzman, the well-known microscopist and dermatologist of New York, in Rome, Italy, on December 6th, aged 58.

Dr. Jacob Reed, one of the best-known physicians of Colorado, of pneumonia, December 15th at his residence in Colorado Springs.

Dr. Daniel C. Leavenworth, a leading physician of New Haven, Conn., and at one time a leading pharmacist of that city.

Dr. Chas. N. Wooley, of Newburgh, N. Y., former president of the Board of Education of that city, at his residence, on December 11th, aged 58 years. He had practiced medicine in Newburgh twenty-three years, and was a graduate of Michigan University and of Bellevue Medical College.

NATIONAL MEDICAL SOCIETIES

Annual Meetings

Name of Society	Place	Time	Secretary	Residence
American Academy of Medicine	Philadelphia, Pa	May 29-31	Dr. C. McIntyre	Easton, Pa.
American Assoc. Genito-Urinary Surgery	Washington, D. C	May 4-6	Dr. W. K. Otis	New York City.
American Assoc. Obstetrics and Gyn	Niagara Falls, N. Y	Aug. 17-20	Dr W. W. Potter	Buffalo, N. Y
American Clinatological Association	Washington, D. C	May 4-6	Dr. G. Hinsdale	Philadelphia, Pa.
American Dermatological Association	Washington, D. C	May 4-6	Dr. J. T. Bowen	Boston, Mass.
American Electro-Therapeutical Assoc	Harrisburgh, Pa.	Sept. 21-23	Dr. M. Einhorn	New York City.
American Laryngological Association	Washington, D. C	May 3-7	Dr. H. L. Swain	New Haven, Conn.
American Laryngological, etc., Society	Washington, D. C	May 4-6	Dr. R. C. Myles	New York City.
American Medical Association	Philadelphia, Pa	June 1-4.	Dr. W. B. Atkinson	Philadelphia, Pa.
American Neurological Association	Washington, D. C	May 4-6	Dr G. M. Hammond	New York City.
American Ophthalmic Society	Washington, D. C	May 4-6	Dr. S. B. St. John	Hartford, Conn.
American Orthopædic Association	Washington, D. C	May 18-21	Dr. J. Ridlon	Chicago, Ill.
American Pædiatric Society	Washington, D. C.	May 4-6	Dr. F. A. Packard	Philadelphia, Pa.
Army and Navy Medical Association	East St. Louis, Ill	May 18	Dr. E. P. Bartlett	Springfield, Ill.
Mississippi Valley Medical Association	St. Paul, Minn	Oct. 19-22	Dr. H. W. Loeb	St. Louis, Mo.
Missouri Valley, Medical Society of	Lincoln, Neb	March 18	Dr. D. Macrae, Jr	Council Bluffs, Ia.
Southern Surgical and Gynec. Assoc	Nashville, Tenn	Nov. 10	Dr. W. E. B. Davis	Birmingham, Ala.
Tri-State Medical Society	St. Louis, Mo	April 6-8	Dr. G. W. Cole	St. Louis, Mo.

STATE MEDICAL SOCIETIES

Annual Meetings

State	Place	Time	Secretary	Residence
Alabama	Selma	April 20-23	Dr. J. R. Jordan	Montgomery.
Arkansas	Little Rock	May 12	Dr. F. Visonhaler	Little Rock.
California	San Francisco	April 20-22	Dr. W. W. Kerr	San Francisco.
Connecticut	Hartford	May 26, 27	Dr. N. E. Wordin	Bridgeport.
Georgia	Macon	April 21	Dr. R. H. Taylor	Griffin.
Idaho	Boise	Sept. 9, 10	Dr. W. D. Springer	Boise.
Illinois	East St. Louis	May 18	Dr. J. B. Hamilton	Chicago.
Iowa	Marshalltown	May 19-21	Dr. J. W. Cokenower	Des Moines.
Kentucky	Owensboro	June	Dr. S. Bailey	Stanford.
Louisiana	New Orleans	May 4	Dr. P. B. McCutchon	New Orleans.
Maine	Portland	June 2-4	Dr. C. D. Smith	Portland.
Maryland	Baltimore	April 20-23	Dr. W. G. Townsend	Baltimore.
Massachusetts	Boston	June 8, 9	Dr. F. W. Goss	Roxbury.
Minnesota	Mankato	June 16-18	Dr. I. Donnelly	St. Paul.
Mississippi	Jackson	April 21	Dr. J. R. Tackett	Meridian.
Missouri	St. Louis	May	Dr. J. N. Jackson	Kansas City.
Nebraska	Lincoln	May 18-20	Dr. G. H. Simmons	Lincoln.
New Hampshire	Concord	May 24, 25	Dr. G. P. Conn	Concord.
New Jersey	Cape May	June 22	Dr. W. Pierson	Orange.
New York (Assoc.)	New York City	Oct. 12-14	Dr. E. D. Ferguson	Troy.
New York (Soc.)	Albany	Feb. 2	Dr. F. C. Curtis	Albany.
New Mexico	Albuquerque	May 12	Dr. H. J. Abernethy	Socorro.
North Carolina	Elizabeth	June 8	Dr. R. D. Jewett	Wilmington.
Ohio	Cleveland	May 19-21	Dr. T. Hubbard	Toledo.
Ontario.	Toronto	June 2, 3	Dr. J. N. E. Brown	Toronto.
Oregon	Portland	June 8-9	Dr. W. F. Amos	Portland.
Pennsylvania	Pittsburg	May 4	Dr. W. B. Atkinson	Philadelphia.
Rhode Island	Providence	June 3	Dr. F. L. Day	Providence.
South Carolina	Charleston	April 22	Dr. W. P. Porcher	Charleston.
South Dakota	Mitchell	June 9	Dr. W. J. Maytum	Alexandria.
Texas	Paris	April 27	Dr. H. A. West	Galveston.
Utah	Salt Lake	Oct. 5, 6	Dr. J. N. Harrison	Salt Lake.
Vermont	St. Albans	Oct. 14, 15	Dr. D. C. Hawley	Burlington.
West Virginia	Charleston	June	Dr. G. A. Aschman	Wheeling.
Wisconsin	Racine	May 5	Dr. C. S. Sheldon	Madison.

PUBLISHERS' DEPARTMENT

ARMOUR'S RED BONE-MARROW

Messrs. Armour & Co. announce in their medical journal advertisements that they have reduced the price of their Glycerine Extract of Red Bone-Marrow from $18.00 to $12.00 per dozen. This is one of the most reliable Bone-Marrow preparations on the market, and any physicians who have not seen samples of it can obtain them by addressing Messrs. Armour & Co., Chicago.

COLUMBIA CALENDAR FOR 1897

The twelfth annual issue of the Columbia Pad Calendar has made its appearance in more pleasing form than ever before, having scattered through its daily leaves many charming illustrations, with an appropriate thought or verse for each day in the year. Among the topics are bicycling, outdoor life, and good roads. The cycling fraternity, and the general public have acquired a decidedly friendly feeling for the Columbia Calendar, and its annual advent is always looked forward to with interest.

The 1897 calendar contains a unique arrangement of dates that will prove very helpful and convenient to busy men, and plenty of space is allowed for memoranda, so that the block may be used as a diary. One feature of the calendar is its neat stand, so arranged that the block can either be used upon the desk or hung upon the wall.

The calendar can be obtained for five two-cent stamps by addressing the Calendar Department of the Pope Manufacturing Company at Hartford, Conn.

BREAD AND HEALTH

There is no one thing so important in the family as bread. Bread and butter form a staple food in every household, yet the aim of the miller is to make a flour that shall be perfectly white, no matter how much of the good part of the wheat is eliminated in the process. Comparatively few of the housekeepers of the land know how much has been sacrificed of the most nutritious portions of the wheat kernel to prepare for their consumption a white flour. It would be as sensible to soak a piece of porter-house steak in hot water to get rid of the color and make it white, as to take the mineral salts and phosphates out of the wheat kernel for the sake of making a white flour. The sooner parents find this out, and the more they use of whole wheat flour, the better for the growing children who need all the nourishment they can get from their food to knit their young bones together. The whole wheat flour is a trifle more expensive at the beginning than the white flour, but the amount of nourishment secured for every dollar expended is largely in excess of that to be had in white flour. The Franklin Mills Co., of Lockport, N. Y., will gladly send a pamphlet giving information on this subject.

A USEFUL PUBLICATION

Victor Koechl & Co., importers of some of our most valuable modern medicinal preparations, such as Antipyrine, Diphtheria-Antitoxin-"Behring," Lanoline, Dermatol, Tuberculin, etc., are publishing a little monthly, entitled "Therapeutic Progress," devoted to brief reports and condensed abstracts pertaining to new remedies. Each issue contains something of practical interest to the physician. We have during the past year numbered this little paper among our exchanges, and can vouch for its practical helpfulness and also for the clean manner in which it is edited. Any physician who desires can receive "Therapeutic Progress" free of charge during 1897, by addressing a request to Victor Koechl & Co., 79 Murray st., New York.

ANTIKAMNIA SUBSTITUTES

A. M. Collins, A.M., M.D., of Shelbyville, Ill., writes under date of November 2, 1896: "I never realized the vast difference between genuine Antikamnia and the various substitutes that are being palmed off, until within the past few days; and the realization was all the more pronounced because I, myself, was the patient. For four weeks I had been suffering with neuralgia of a very severe type and attended with considerable febrile movement. I tried the various compounds and other preparations, lauded as 'just as good,' but with no real advantage and with no little heart disturbance. On Saturday, I went to Arcola, and while there was taken very sick with one of my neuralgic attacks. I sent to the drug store for some genuine Antikamnia, and to be certain about it, procured an unbroken original package. I took it in eight to ten grain doses at intervals of two hours. The effect was magical; the first dose relieved the severity of the pain, while the second quieted it entirely, and I went to bed, sleeping all night, with one awakening of a few moments only, a thing I had not done in four weeks. This experience on my own person has thoroughly convinced me of the superiority of the genuine Antikamnia."

SPECIAL MONOGRAPH

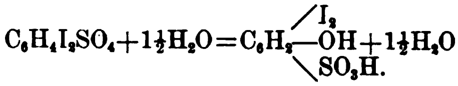
Sozoiodole in Therapy

Ever since antisepsis became recognized as an integral part of therapeutics, being considered as indispensable in the scientific treatment of wounds, the chief representatives of the group of antiseptics—corrosive sublimate, carbolic acid, and, in recent years, iodoform—have enjoyed an almost universal application. Experience has taught, however, that these chemicals are not only not indifferent in their action upon the human organism, but often injurious,—nay, even poisonous, especially when large quantities are used. Furthermore, these substances were frequently employed with great reluctance in individuals manifesting an idiosyncrasy toward their action or to whom the odors were repulsive.

For this reason, the demands from the medical world for a readily soluble antiseptic embodying the favorable properties of the above-named substances, but devoid of their objectionable features, became greater and greater day by day, until 1887, when they were satisfied by the introduction of the Sozoiodole salts, manufactured by the chemical firm of H. Trommsdorff, of Erfurt, which in every respect fulfill these requirements. These salts, constructed upon a scientific basis, satisfy all the demands which can be made upon a perfect antiseptic; for they are readily soluble in most of the known solvents, are wholly odorless, are not decomposed by light (in which respect they differ from most of the iodine preparations), and, excepting the mercury salt, are absolutely non-toxic. Besides, these preparations possess the advantage of cheapness, especially the potassium salt, as compared with iodoform, an economic advantage to State and municipal hospitals, but chiefly to the poor, because, as a rule, 10 to 25% triturations of it have at least the same therapeutical effect as pure iodoform.

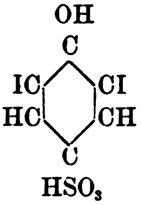
Physical and Chemical Nature of the Sozoiodole Salts

Since, as is known, carbolic acid readily diffuses into the blood, and, not meeting in the organism sufficient sulphuric acid for combination, produces carbolic-acid intoxication, it was but rational to at once employ the phenolsulphonic acids as antiseptics. The antiseptic properties of these are sufficiently known. Reasoning *a priori*, by the union of iodine with these phenolsulphonic acids, a body possessing the antiseptic qualities of the latter in a far greater degree must be obtained. Actual experiment has confirmed this view and led to the production of di-iodophenolsulphonic acid, tersely called Sozoiodolic acid, the formula of which is:



$$C_6H_4I_2SO_4+1\tfrac{1}{2}H_2O=C_6H_2\left\langle\begin{array}{l}I_2\\OH\\SO_3H.\end{array}\right.+1\tfrac{1}{2}H_2O$$

This compound contains 56% of iodine and 20.3% of phenol residue.



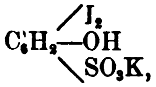
The extraordinarily intense antiseptic action of the compound is explained by the fact that, as seen by the accompanying structural formula, both iodine atoms are in immediate proximity to the hydroxyl group.

It exists as small, prismatic, crystalline needles, very soluble in water, alcohol, or glycerin.

With metals, Sozoiodolic acid forms acid and neutral salts, of which, because of their stronger antiseptic properties, the former only are employed.

The four following Sozoiodole salts have been shown to possess especial antiseptic properties:

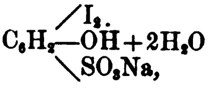
1. Sozoiodole-Potassium (Potassium Sozoiodolate),



$$C_6H_2\left\langle\begin{array}{l}I_2\\OH\\SO_3K,\end{array}\right.$$

a fine, white, light, odorless powder, soluble in 100 parts of water at ordinary temperature, insoluble in alcohol.

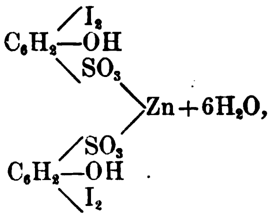
2. Sozoiodole-Sodium (Sodium Sozoiodolate),



$$C_6H_2\left\langle\begin{array}{l}I_2.\\OH+2H_2O\\SO_3Na,\end{array}\right.$$

colorless, odorless needles, having an astringent, followed by a sweet, taste; soluble in 20 parts of water at ordinary temperature, in alcohol, and in glycerin on warming. Sozoiodole-Sodium is the preparation always understood when "Sozoiodole" is spoken of without any further designation.

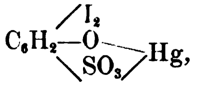
3. Sozoiodole-Zinc (Zinc Sozoiodolate),



$$\left.\begin{matrix} C_6H_2\begin{cases} I_2 \\ OH \\ SO_3 \end{cases} \\ C_6H_2\begin{cases} SO_3 \\ OH \\ I_2 \end{cases} \end{matrix}\right\rangle Zn+6H_2O,$$

delicate, colorless, odorless, prismatic needles, soluble in 25 parts of water at ordinary temperature, more readily soluble in alcohol or glycerin.

4. Sozoiodole-Mercury (Mercury Sozoiodolate),



$$C_6H_2\begin{cases} I_2 \\ O \\ SO_3 \end{cases} Hg,$$

an extremely fine, orange-yellow, neutral powder, containing 40.7% of iodine and 32% of mercury; insoluble in water and alcohol. Upon addition of common salt it is readily soluble. Soluble (1:200) in water on addition of a few drops of hydrochloric acid.

Bacteriological and Physiological Properties of the Sozoiodole Salts

The labors of Langgaard,[1] Lübbert,[2] Spierig,[3] Dräer,[4] and Müller[5] have demonstrated that the Sozoiodole salts are capable of destroying in the shortest possible time even the most resistant bacteria; *e.g.*, staphylococci, streptococci, anthrax spores, the microorganism of green pus, Löffler's diphtheria bacillus, cholera spirilla, itch mite, etc., whereby their powerful antiseptic powers are amply proved. According to the preceding experiments, the antibacterial action of Sozoiodole-Mercury is equal to that of corrosive sublimate; at the same time, it is far less toxic than the latter.

Further researches of Langgaard,[1] Seiffert,[6] Stern,[7] Cohn,[8] Buffalini, Dräer,[4] Lübbert,[2] and others show that the Sozoiodole Salts do not liberate iodine within the organisms of warm-blooded animals, but pass through the body unaltered. Herein is found a scientific explanation of the observations of Langgaard, Lübbert, Schwarz, Dräer, Vossen,[9] and others, which demonstrate that the Sozoiodole salts may be administered internally in relatively large amount without injury. This explains the fact that intoxications have *never* been observed during the employment of the Sozoiodole salts. Feeding-experiments upon animals have shown that these salts do not irritate the kidneys; on the contrary, the urine always remains free from albumin.

Therapy of the Sozoiodole Salts

The first practical experiments with the Sozoiodole salts were made in 1887 by Dr. Henry Wagner, of Berlin, now professor in San Francisco; and, at the latter's suggestion, by Prof. Dr. Lassar, of Berlin. The extraordinarily favorable results obtained by these gentlemen induced a number of prominent physicians to further test the Sozoiodole salts as to their practical value. The large number of publications which resulted, gave the subjoined indications for the use of the Sozoiodole salts. Here it should be remarked that it is by no means immaterial which one of the four commonly employed Sozoiodole salts is used. It should be remembered that each salt has its specific action, indicating its employment in certain distinct forms of disease. Carbonates and alkalies—*e.g.*, limewater, leadwater, ammonia, etc. (except borax)—should not be prescribed in combination with the Sozoiodole salts, because they give, with these, decomposition-products,—that is, they destroy the therapeutical action of the salts.

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Sozoiodole-Potassium is primarily a substitute for iodoform, and, as has already been stated, is non-toxic, odorless, and soluble. Even when employed in substance it does not irritate the skin, and when the latter is inflamed it leads to a mild and reactionless exfoliation. It is less expensive than iodoform or any of its substitutes, because, as a rule, at least the same effect is obtained with 10 to 25% triturations of it with talcum, sugar of milk, boric acid, starch, zinc oxide, vaselin, lanolin, etc., as with pure iodoform. Frequently it is much more effective in action than iodoform, and manifests its superiority in instances where the latter is inert. According to the observations of Profs. Schwimmer, Lassar, Albert, Wagner, Elischer, Kuhn, and Lossen, Health Councillor Schmidt, Drs. Bresgen, Fritsche, Koch, Ostermayer, Schwarz, Nitschmann, Stern, Matschke, Herzog, Mayer, Gaudin, Hopmann, Grazzi, Seiffert, Suchannek, Rosinski, Glässner, Vossen, Reisert, Dunn, Hartmann, and many others, it is applicable in all instances where the custom has been to employ iodoform, *e.g.*, in operations, burns, scalds, and traumatisms in general; in rhinology and laryngology, syphilidology, dermatology, otriatry, and dentistry. The salt acts as a desiccant, and is used in powder or salve form in concentrations of 1 to 10, to pure. (For further particulars see the subjoined Formulary.)

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[1] Dr. A. Langgaard, Lecturer at the Pharmacological Institute, Berlin.—*Therapeutische Monatshefte*, 1888, Sept.

[2] Dr. A. Lübbert, Imperial Staff Physician (from the laboratory of Dr. Lehne Berlin).—*Fortschritte der Medicin*, 1889, Nos. 22 and 23.

[3] Dr. Spierig, Assistant to Prof. Sahli, Bern.—*Zeitschrift für Hygiene u. Infectionskrankheiten*, 1893, XIII, No. 1.

[4] Dr. Arthur Dräer, of the Hygienic Institute of Königsberg, Prussia.—*Centralblatt für Bakteriologie u. Parasitenkunde*, 1893, No. 7.—*Deutsche med. Wochenschrift*, 1894, Nos. 27 and 28.

[5] Dr. G. Müller, *Monatshefte für praktische Dermatologie*, VIII, No. 7.

[6] Dr. Otto Seiffert, *Münch. med. Wochenschrift*, No. 47, 1888.

[7] Dr. Carl Stern, Inaugural Dissertation Düsseldorf, 1889.

[8] Dr. Max Cohn, Inaugural Dissertation, Berlin, 1888; published by Gustav Schade.

[9] Dr. O. Vossen, private communication.

SOZOIODOLE-SODIUM, like the potassium salt, is non-toxic, odorless, but more soluble than the latter. Aside from the specific uses mentioned below, its general application is the same as the potassium salt. It is to be preferred in all instances where antiseptic solutions are called for. It has been warmly recommended by Drs. Schwarz, Dräer, Willerding, Böhm, Lüdecke in diphtheria, and by Drs. Tarnowski, Matschke, Koch, Dräer, Mihocinovic, in soft chancre. The results obtained by these gentlemen overshadow those obtained with all other preparations. The mortality rate in diphtheria ranged from 3 to 10%. In alternation with Sozoiodole-Zinc, it rendered excellent service in gonorrhea. It enjoys the widest application in affections of the nose and throat, and in ophthalmology. The salt acts as a desiccant and is mostly employed in the form of powder, in 1:10 concentrations, or pure; or in 1:12–50 solution. (See Formulary.)

SOZOIODOLE-ZINC is likewise odorless and readily soluble. Caution should be exercised in its employment, since the application of too strong concentrations may be followed by unintended escharotic action. According to the observations of Profs. Kuhn, Schwimmer, Stetter and Schmidt, Drs. Suchannek, Seiffert, Herzog, Fritsche, Schwarz, Bresgen, and others, this salt manifests superior therapeutic properties in affections of the nose and throat; while Drs. Grazzi, Krause, Stetter, Riedlin, Friedländer, and others employ it with excellent result in affections of the ear. Judging from the reports of Profs. Schwimmer, Tarnowski, Neisser, Drs. Nitschmann, Koch, Schwarz, Gaudin, Aumer, Mihocinovic, and others, its action in gonorrhea is most satisfactory. (See also Sozoiodole-Sodium.) Prof. Albert, Drs. Schultze, Witthauer, Gaudin, Friedländer, Stern, and others laud its action in dermatology and syphilidology. It has also found application in frost-bite, ozena, and in gynecological practice. The salt increases secretion, and is in these cases employed in concentrations of 1:5–100, in powder form, as salve, or in solution.

SOZOIODOLE-MERCURY is insoluble in water, but is made readily soluble by addition of common salt. As in the case of the zinc compound, care should be exercised in the use of this salt, since it too is caustic when employed in concentrated form. It is the only Sozoiodole salt that is poisonous. However, the medicinal doses employed are so small that they are wholly devoid of injurious effects. This salt is especially indicated in all conditions where other mercury salts have heretofore been exhibited. In syphilis and cutaneous affections eminent results have been obtained with this salt by Profs. Schwimmer, Tarnowski, Albert, Janovsky, Drs. Endlitz, Witthauer, Gaudin, Stetter, Fritsche, Herzog, Matschke, Mihocinovic, and others. Dr. Klammann lauds its action in aural polypi, while many others have secured good results in ozena, fungous affections of the joints, fistula (also tuberculous), abscesses, and tuberculous ulcers. It is employed in the strength of from 1:200 to pure, as powder, salve, or solution.

Reports on Sozoiodole

PHYSIOLOGICAL ACTION

Absolutely Nontoxic.

Dr. A. LÜBBERT, of Berlin, in a most exhaustive and learned paper (*Fortschritte der Medicin*, 1889, Nos. 22 and 23), writes as follows:

"In order to obtain reliable data as to the physiological action of Sozoiodole upon the animal body, I injected a number of rabbits subcutaneously with the different Sozoiodole preparations in varying amounts. All the animals, twelve in number, bore a single injection without any manifestations whatever.

"The salts in large doses were also applied directly to wound-surfaces; and with the exception of the mercury salt, toxic effects were not noted. When taken into the stomach, the mercury salt appears to be as harmless as the sodium salt; for a dog of 5 kilos (11 lb.) received 4 times daily 0.1 Gm. (1½ grn.), and for 7 days in succession 0.5 Gm. (7½ grn.), without manifesting any symptoms of disturbance."

Readily absorbed from the digestive tract and subcutis.

Dr. GEORG MÜLLER, of Dresden, from a series of experiments with Sozoiodole-Mercury (*Monatschrift für prakt. Derm.*, 1889, VIII, p. 310), draws the following conclusions:

1. Sozoiodole-Mercury, applied internally, subcutaneously, and upon wound-surfaces, is decidedly less toxic than the remaining mercury preparations, a statement which is proved by the fact that he administered to an old, exhausted horse 30 Gm. (1 oz.) of the salt, in pill form, without in the least injuring the animal.
2. In dogs the remedy is absorbed into the blood-channels from both the digestive tract and the subcutis. In the first instance, the substance appears in the urine after the expiration of 10 to 15 hours; in the latter, after 35 to 42 hours. Furthermore, it appears that absorption takes place more rapidly when the salt is administered subcutaneously in a soluble than when in an insoluble state.
3. Absorption does not take place from the skin.
4. Sozoiodole-Mercury is very promptly absorbed from granulating wounds when it

is applied in large amounts as a permanent dressing; while only very small proportions appear to enter the circulation from open wounds.

According to Dr. Salinger, of Dr. Stetter's clinic, Königsberg (*Arbeiten aus dem Ambulatorium u. d. Privatklinik f. Ohren-, Nasen-, u. Halsleiden*, 1895, No. 2, p. 45), the advantages of Sozoiodole over former sovereign antiseptics,—carbolic acid, mercury bi-chloride and iodoform,—are: "It is non-toxic, even in quite high doses; it can be employed in solution, salve and powder form; it may be administered internally with perfect safety, and, finally, it is absolutely odorless."

BACTERIOLOGY

Powerful, Nontoxic Bactericide.

In a series of experiments conducted for the purpose of studying the bactericidal properties of the Sozoiodole preparations, Professor Dr. A. LANGGAARD, of the Pharmacological Institute, Berlin (*Therap. Monatshefte*, p. 431, 1888), found that the development of the *Streptococcus pyogenes* was totally suspended through the presence of Sozoiodole-Sodium in the strength of 2%. The culture plates always remained sterile.

In the practical employment of Sozoiodole in the treatment of *wounds*, it was of importance to determine whether it possessed toxic properties. Experiments carried out upon rabbits showed that Sozoiodole-Sodium, even in doses of 1.0 Gm. (15 grn.), manifested no toxic effects. It was likewise determined that the Sozoiodole salts pass through the organism unchanged and without the liberation of iodine. It may further be remarked that these feeding-experiments on animals demonstrated:

1. That the Sozoiodole preparations do not irritate the kidneys; the urine always remained free of albumin.
2. That they are in great part excreted in an unaltered state, in part combined with sulphuric acid.

Superior to Iodoform.

Dr. MAX COHN (Inaugural Dissertation, Berlin, 1888, pp. 27, 28), in a series of experiments upon rabbits, made under the direction of Prof. Liebreich, showed that Sozoiodole-Sodium in 1% solution exercises an inhibiting influence upon the development of the *pyogenic cocci*. Therefore he concludes that this preparation should be given the preference over iodoform in the treatment of wounds of all kinds, since its use is unattended by symptoms of either local or general intoxication.

Regarding the bactericidal, antiseptic, and disinfectant properties of the Sozoiodole preparations, Dr. L. Salinger, of Dr. Stetter's clinic (*Arbeiten aus dem Ambulatorium, etc.*, 1895, No. 2, p. 43–71), examined bacteriologically the secretions from seven cases of purulent otitis and found seven different varieties of bacteria as follows:

Friedlaender's pneumo-bacillus, and yeast, attenuated diphtheria bacillus, bacillus fluorescens non-liquefaciens, bacillus pyocyaneus B, streptococcus pyogenes, staphylococcus aureus and albus. From the ear of each of these seven cases a drop of pus was taken and mixed with a drop of the Sozoiodole solutions with which the patients were treated, namely, 2 per cent. sols. of Sozoiodole-Mercury, Sozoiodole-Zinc and Sozoiodole-Potassium. After two hours' action of these salts in the strength above noted, inoculations upon culture media always resulted negatively. Larger amounts of fresh pus were treated in the same way with negative results.

Since the direct action for two hours of 2-per-cent. solutions of Sozoiodole-Zinc, Sozoiodole-Mercury arrests the vitality of the pyogenic micro-organisms, these solutions were applied for two hours directly to the middle ear in six cases of *purulent otitis media*, the ear being completely filled with the solutions. In two patients the secretion disappeared entirely after the expiration of three days. The pain attendant upon the applications was very slight.

Equal to Corrosive Sublimate.

Dr. ARTHUR DRÄER (*Deutsche med. Wochenschrift*, 1894, Nos. 27, 28) reports experiments undertaken with a view to determine the disinfecting power of the Sozoiodole salts upon the *diphtheria bacillus*. He found that Sozoiodole-Mercury (1:10000) kills a fully developed pure bouillon culture of diphtheria bacilli in 5 minutes. Even half this strength (1: 20000) sufficed to destroy such cultures within the short space of one hour.

He says: "The disinfecting properties of Sozoiodole-Mercury are in every respect equal to those of sublimate, formerly the strongest disinfecting agent used in practice. I am therefore convinced that Sozoiodole-Mercury may be used in diphtheria, in powder form, with the same confidence with which sublimate is employed, and with much less danger."

He also tested the effects of the various Sozoiodole salts upon himself, and never observed symptoms of irritation arise in either the respiratory or the intestinal tract.

The same author (*Centralblatt f. Bakteriologie u. Parasitenkunde*, 1893) publishes a full account of the influence of the Sozoiodole preparations upon the growth and development of the *cholera bacillus*, in which the results are fully as convincing as in the case of the diphtheria bacillus above mentioned. The bactericidal action was most pronounced on use of Sozoiodole-Mercury, though the zinc, sodium, and potassium salts manifested it in no small degree. Tribromphenol-bismuth, even in double the proportion, does not approach the Sozoiodole preparations in activity.

ANTISEPTIC IN SURGERY, GYNECOLOGY, ETC.

Complete Surgical Antiseptic.

Dr. NICOLAUS THOMÀN (*Wien. klin. Wochenschr.*, 1889, No. 88), of Prof. Albert's clinic, speaking of the use of the Sozoiodole preparations in the treatment of wounds, says: "We can employ one and the same preparation for disinfecting the instruments, the hands of the operator, and field of operation; for irrigations, for impregnation of the dressings; in short, for *all* manipulations demanded in antiseptic treatment."

The author was not only able to carry out the antiseptic treatment with Sozoiodole in three clinic patients, in whom the use of both carbolic acid and sublimate was attended by reactive eczema, but one case of eczema extending over the greater part of the lower extremity, and induced in the manner described, was cured within a short time by application of a 5% ointment of Sozoiodole-Zinc.

Sozoiodole-Potassium was used in equal parts with talcum as dusting-powder, with cacao-butter as bougies, and with collodion. In some cases the dressing was left on for as long as sixteen days, with but beneficial effect,—an accomplishment not as yet attained with any other such medicament.

The readily soluble Sodium salt was employed in 2½% watery solutions for disinfection of instruments and of the hands of the operator, for the toilet of the operation field, for irrigations during operation or change of dressings, and for saturation of the absorbent gauze used in bandaging. In addition, gauzes impregnated with 10% Sozoiodole-Sodium or Sozoiodole-Potassium were used for direct application to the wound-surface and for drainage; the latter, because of its slighter solubility, appears to be better adapted for permanent dressings. The zinc and mercury preparations were applied in form of salve (with vaselin); the latter in the strength of 2 to 5%, the former 5 to 10%.

In Abscesses Fistulæ, Ulcers, and Wounds.

Prof. LOSSEN, of Heidelberg, writes under date of March 27, 1889, that during the summer and winter of 1888 he employed Sozoiodole-Zinc, Sozoiodole-Mercury, Sozoiodole-Sodium, and Sozoiodole-Potassium.

All four preparations, applied pure in powder form, were tried in the following affections: Tuberculous abscess cavities, chronic fistulæ, tuberculous ulcers of the skin, in granulations after burns, and in operation-wounds. The first two[10] were not well borne in the pure state—they produced violent local irritation. The last two were well borne throughout. They gave rise, as a rule, to beautiful, healthy granulations; for example, after burns; but, applied to tuberculous ulcers of the skin, they manifested no especial influence.

Harmless Succedaneum for Iodoform in all cases.

According to Dr. NITSCHMANN, of Berlin, as elicited in a paper read at the Tenth International Medical Congress, held in Berlin, 1890, the Sozoiodole salts find employment chiefly in *all* cases in which iodoform has previously been used. Over the latter, however, they possess the following great advantages: They are nontoxic; they can not only be employed in powder and salve form, but also in solution; they can, because of their variety, exert the most varied action upon skin and mucous membrane, according to the wishes of the physician; they can be administered internally without harm; and, last, not least, they are wholly odorless, rendering neither the physician nor the sick-room repulsive to the patient.

In a subsequent paper (*Therapeutische Monatshefte*, Jan., 1889) the same author gives an interesting report of *incised* and *crush wounds*, *burns*, *chronic ulcers* of the leg, etc., in all of which he emphatically recommends the employment of the Sozoiodole preparations. Formerly he had always employed iodoform, but such excellent results were obtained with Sozoiodole that the iodoform was discarded. In comparative tests with iodoform, he found that Sozoiodole produced a cure in one-half the time required under use of iodoform.

Efficacious Granulator in Sinuses and Chronic Ulcers.

Dr. ROSINSKI, of Wronke (*Therap. Monatshefte*, 1893, p. 599), reports the case of a man who had received a simple *fracture* of the upper third of the tibia. When the plaster dressing was removed two weeks later, two necrotic foci were found. The fracture having healed well, these points were disinfected and a tightly fitting iodoform-gauze bandage applied. On changing this, the necrotic process was well advanced, especially along the tibia. There were profuse sanious secretion and raspberry-shaped granulations at the inner margins of the sinus. A profusely secreting necrotic focus had likewise developed above the heel. In spite of the most careful antisepsis and daily change of bandages, the discharges could not be arrested. A sinus running along the outer longitudinal aspect of the tibia discharged a large amount of putrid secretion, threatening erosion of the tibialis anticus.

As the patient could no longer tolerate the iodoform treatment, Sozoiodole-Potassium was resorted to. After thoroughly cleansing the sinus with sublimate, this Sozoiodole salt was applied compactly, the parts being well tamponed. Improvement was marked and rapid. The secretions lessened, the foci above the instep and heel became clean and filled with healthy granulations, and manifested a pronounced tendency to return to the normal. After fifteen changes of dressings the process was entirely dissipated, a slight thickening of the tibia only remaining.

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[10] According to the experience of other observers these salts must be used in dilution. In this form their action is favorable and unattended by pain. Sozoiodole-Mercury should *only very* rarely be used pure, and then only when a *caustic action* is desired. [TROMMSDORFF.]

The author further states that, since this experience, he has applied Sozoiodole after previous use of the Paquelin cautery, in *all* cases of severe *chronic ulcers* of the leg, with the best results; and that he never observed any untoward symptoms, such as are often seen with the iodoform treatment.

Excellent in Burns; Painless, Harmless.

Dr. OSTERMAYER reports (*Deutsche med. Wochenschr.*, 1889, No. 41) his experience with Sozoiodole-Potassium, 10 % with starch or talcum, in the treatment of *burns*. It is odorless, anodyne, antiseptic, and absolutely *nontoxic*. The author first punctures the vesicles, dries with sterilized cotton, and then applies the above-mentioned powder and a bandage, which remain in position for 24 hours. He states that the healing process is completed in a remarkably short space of time; besides, the patient is unconscious of pain. There is no danger of intoxication.

It has been observed that persons burned in the face with hot caustic potash, or even monobromacetic acid, are almost painlessly cured within a very short period by the employment of Sozoiodole-Potassium. The disfiguring scars, of such frequent occurrence after wounds of this nature, did not result.

Prompt Cicatrizant and Antiphlogistic

In the treatment of *syphilitic ulceration*, Dr. HERMANN SUCHANNEK, of Zurich (*Corresp.-bl. für schweiz. Aerzte*, 1889), recommends Sozoiodole-Mercury, in concentration not exceeding 1:20 to 1:10, applied directly to the affected part with a brush or cotton swab only.

Tuberculous ulcers are amenable to treatment with Sozoiodole-Sodium in powder form, and dry affections of the larynx yield to Sozoiodole-Zinc in powder mixtures. In the various *cutaneous affections*—such as acute and chronic eczema, the different forms of herpes, impetigo, and ulcers—Sozoiodole-Zinc paste has a most soothing and curative action. Sozoiodole-Potassium, 5% with talcum, was employed with success in *varicose ulcers* of the leg, and in paste form (1:10) in *inflammatory* and *parasitic conditions* of the skin.

Furthermore, a Sozoiodole-Sodium-lanolin salve was found of value in exciting healthy granulations in *indolent wounds*; while local application of a 7% solution of Sozoiodole-Zinc (more accurately, 1:15 distilled water) cures *purulent conjunctivitis* and ***blennorrhœa neonatorum***. In primary *vaginitis* the introduction of tampons medicated with 10% Sozoiodole-Sodium salve was followed by improvement of a permanent nature; and in purulent *cervical catarrh*, insufflations of Sozoiodole-Sodium and introduction of tampons below the cervix uteri were resorted to with success. Even *endometritis* was eradicated by intra-uterine irrigations with a 7% solution of Sozoiodole-Zinc.

Excellent Results in Chronic Ulcers, Cancer, etc.

Dr. K. WITTHAUER, of Halle, writes (*Münchner med. Wochenschr.*, 1892, No. 34) that he obtained most decided and excellent results with Sozoiodole-Mercury in the treatment of *chronic indolent ulcers* of the foot and leg. He employed the following ointment:

Sozoiodole-Mercury	1 part
Lanolin	90 parts
Olive Oil	10 parts

This was spread, to the thickness of the back of a knife, upon linen strips the width of the finger, which were then applied directly to the ulcerated surface. Over this came cotton-wool and a bandage applied so as to exert slight pressure. The leg was elevated, the patient lying in bed or upon a sofa. In the beginning this dressing was changed daily; later on, it was left in position four or five days.

Within a few days the unhealthy granulations are seen to exfoliate in the form of a whitish skin, which is soon followed by the appearance of fresh, red, firm granulations. Coincident with this, a delicate cicatricial line develops at the margins of the wound. The formation of the latter can be hastened in very extensive ulcers, by lightly touching the margins of the ulcer with lunar caustic. Cicatrization usually advanced with surprising rapidity, and the ulcer healed. Should there be a decline in the tendency to heal after the ulcer has been reduced to a small, open spot,—as occasionally occurs when the process is extensive,—the wound should be dusted with the following:

Sozoiodole-Mercury	1 part
Talcum	10 parts

This forms a dry crust under which healing takes place. Before the patient gets up, the author advises the application to the leg of Unna's zinc-glue bandage (*Berlin. klin. Woch.*, 1892, No. 12), which acts as a good-fitting elastic stocking and prevents opening of the scar. This can be left in position for six weeks, and, if necessary, may be renewed. He also employed the remedy in *skin affections* and *granulating wounds* of all kinds. In *eczemas* in every stage, especially those due to medicaments, he employed with good results the dusting-powder mentioned above, or the following:

Sozoiodole-Zinc	1 part
Talcum	10 parts

The moist areas healed quickly, the vesicles dried up, and the subjective symptoms, such as itching, etc., subsided. Of *granulating wounds*, chiefly *deep burns*, and *wounds* originated by incision of *phlegmons* were treated. In both, the powder was generally first tried; later, when the results were not as desired, salve was employed. With but one exception, the neighboring parts were not irritated by the remedy. A *pustulous scrofulous affection*, implicating the whole hairy portion of the head in a boy, was healed with surprising rapidity under the use of Sozoiodole-Mercury, and this, too, after cod-liver oil, bismuth, and other salves, lunar caustic in substance and as moist dressing had been tried in vain. The preparation was also used in *tuberculous wounds*, in *tuberculous* and *other fistulæ*. If the wounds were directly accessible, the dusting-powder or salve was used, under application of which, the surfaces granulated nicely. In fistulæ or cavernous wounds, the following emulsion was employed:

Sozoiodole-Mercury	1 part
Glycerin	8 parts
Acacia	4 parts
Distilled water	88 parts

A number of children who had been operated upon for *fungous joint-affections, caries*, and *osteomyelitis*, were treated with this combination. According to the number of fistulæ, the emulsion was injected every three or four days in amounts of 1-2 Gm. (15-30 minims), and the openings covered with gauze. The emulsion was also used for deep injections into *closed fungous joints*. Here the results were most satisfactory. Contrary to the effects of iodoform, it caused very little pain and but slight or no fever.

Under date of Aug. 15, 1895, the same author writes that the high opinion he has always entertained of the Sozoiodole preparations remains unaltered. He makes extensive use of them, particularly in his private practice. As after-treatment following cauterization, he has recently employed Sozoiodole-Sodium, either alone or combined with alcohol tampons, in a number of cases of *inoperable cancer of the uterus*. The results were entirely satisfactory.

He has also successfully used Sozoiodole-Potassium and Sozoiodole-Sodium as dusting-powders in *burns* and *moist eczemas*.

Sozoiodole-Mercury, in 1% salve or powder, is prized very highly as an application in *ulcers of the leg*, and as a *wound salve*. In the author's surgical practice, the Sozoiodole preparations are prescribed very freely. They have also been of service in *affections of the nose and larynx*.

Good Results in 50 cases of Traumatism.

Dr. **Alfred Mayer**, of Berlin, reports, under date of Feb. 12, 1889, that good results were obtained with the Sozoiodole-Sodium and Sozoiodole-Potassium in about 50 cases of incised and contused wounds. All the wounds healed by first intention. *Losses of the skin*, treated with Sozoiodole-Sodium salve, healed as rapidly as under the influence of iodoform treatment, the Sozoiodole being superior in that it does not irritate. The author therefore warmly recommends triturations of Sozoiodole-Potassium and Sozoiodole-Sodium in traumatism. He and his colleagues, he writes, will continue to employ Sozoiodole in the treatment of both incised and contused wounds.

—Dr. F. **Sölch**, of Lauingen, writes, Nov. 9, 1894, as follows:

"I have employed the Sozoiodole preparations in appropriate cases with signal success. In the District Hospital of this place I treated two very severe cases of *traumatism* with Sozoiodole-Potassium. Not only was the progress toward healing more rapid, but the suppurative process was much less than under the use of iodoform. I saw this plainly, because on certain days I experimentally employed iodoform in one and the same case."

Most Beneficial in Burns, Conjunctivitis, and Pharyngitis.

Dr. **Max Cohn**, of Berlin, writes, under date of Feb. 16, 1889, that of the Sozoiodole preparations he has used only the Sodium salt, adopting a method of administration similar to that recommended by Dr. Nitschmann in the January (1889) number of the *Therapeutische Monatshefte*. He employed the preparation pure, in powder form, in the treatment of *ulcers*. Its odorless properties at once commended it to patients. The healing process made rapid progress. A 10% ointment of Sozoiodole-Sodium with lanolin acted most beneficially in *burns*. On numerous occasions he has successfully used 5 to 10% solutions of the medicament in the therapy of *conjunctivitis, pharyngitis*, and the like.

—Under date of July 8th, 1889, Dr. R. **Glässner**, of Cassel, writes that he has advantageously employed Sozoiodole-Sodium as dusting-powder in *wounds*. Over iodoform it possesses the advantage of being absolutely odorless. Most extensive use was made of Sozoiodole-Zinc in *foul smelling aural discharges*, in which condition it produced far more rapid therapeutic effects than the previously employed solutions of boric acid and potassium hypermanganate. Furthermore, it manifested a decidedly favorable action when used for *irrigating* the *bladder*.

Replacing Iodoform in Surgical and Gynecological Practice.

Prof. F. **Elischer**, of Budapest, writes, under date of Oct. 23, 1894, that in surgical and gynecological practice he can fully confirm the results obtained by his colleagues Mayer and Ostermayer. The researches upon carcinomata and ulcers are still in progress. The remedy in his hands appears to at least have replaced iodoform.

—Dr. Benckiser, of Karlsruhe, under date of May 6, 1890, reports that he has used Sozoiodole-Zinc in a series of gynecological cases. When used pure, it appears to act very well as a caustic in certain ulcerative conditions. He has observed a number of such ulcers rapidly heal under the use of Sozoiodole-Zinc, dusted on the parts in the pure state.

—Dr. O. Parow, of Weimar, writes that he has observed good effects follow the use of insufflations of Sozoiodole-Zinc in a case of simple *chronic naso-pharyngeal catarrh*. Most pronounced action of this salt was noted in a case of *contused wound* of the tibia which manifested no disposition to heal after many weeks of treatment with wet dressings of creolin solution. On employment of wet dressings of a 2% solution of Sozoiodole-Zinc, cure was accomplished within a few days.

—Dr. Wagner, Senior Physician to the City Hospital, San Francisco, reports most favorable results with Sozoiodole-Potassium in cases of erysipelas.

—Dr. Otto Vossen, of Aix-la-Chapelle, reports that he has used 5 to 10% Sozoiodole-Potassium ointments, made with lanolin, cold cream, in *cutaneous eruptions* of all kinds; likewise in *fissured nipples* of nursing women. The results were always most gratifying.

Internally, he has prescribed Sozoiodole-Sodium 1.0 to 1.5 Gm. (15 to 23 grn.) 3 times daily, in wafer form, with or after meals. In some cases of *carcinoma*, the results were of such a nature as to make it highly desirable for others to follow out the same line of treatment.

Excellent Results in Veterinary Practice. Nontoxic.

Dr. E. Wallmann, Royal Departmental Veterinary Surgeon, of Erfurt, reports by letter to Mr. Trommsdorff that he has had very good, indeed often surprising, results with the Sozoiodole preparations. In two cases in which he employed Sozoiodole-Potassium (powder) in the treatment of *operation wounds* (neurectomy) in the horse, perfect healing was obtained without any sign of suppuration, an achievement which was never noted by him after the use of other remedies.

Sozoiodole-Zinc, in 1 to 2% solution, was used in 40 *conjunctival catarrhs* and in *otorrhea*, with the best effects. A more rapid and complete healing was noted than in the treatment with other medicaments.

The author was agreeably surprised by the action of Sozoiodole-Mercury in a case of *acarus scabies* in a dog, which had been ineffectually treated with other remedies for more than half a year. Until now, this affection has been considered incurable. After two inunctions with a salve (1:20), such pronounced improvement took place as to warrant a strong hope of completely curing the animal within a short time. Although more than one-third of the body constantly received inunction, and the medicament was repeatedly licked off by the animal, toxic symptoms were never developed.

SOZOIODOLE IN RHINO-LARYNGOLOGY

Of the Utmost Service.

In his exhaustive and well-known treatise ("Krankheits- und Behandlungslehre der Nasen-, Mund- und Rachenhöhlen sowie des Kehlkopfes und der Luftröhre," 2d Ed., Vienna, 1891, p. 119), Dr. Max. Bresgen says:

"In the nose, the Sozoiodole salts have been of the utmost service to me. I most frequently employ the sodium salt, because it is the most soluble, rapidly dissipates mucus collections, and reduces the swelling of the mucous membrane. The potassium salt exerts the same action, though it is not as certain and far-reaching. Both salts must be used in a finely powdered state, and are employed pure. The effects are most pronounced when insufflated with Kabierske-Bresgen's powder-blower, or my tread-bellows. Sozoiodole-Zinc acts more intensely than the foregoing; it should only be used in mixture of 1-2:10 iodole. In *foul-smelling secretions*, however, it has not in my hands acted better than the sodium salt. The mercury salt should never be employed for insufflation, as it is extremely violent in its action upon the lower air passages, if it reaches them. It is said to be of value as a caustic remedy in *syphilitic ulcerations*. The aluminium salts introduced by Schaeffer, were formerly much used by me, but, compared with the Sozoiodole salts, they are inferior."

Again, on p. 159, he says: "Nasal inflammations following fresh infectious diseases should be much more frequently subjected to local treatment with Sozoiodole-Sodium than has been the custom heretofore." Speaking of *fibrinous rhinitis* and *croup*, p. 161, he says: "If insufflations are possible, such composed of Sozoiodole-Sodium may bring about rapid exfoliation of the diphtheritic deposits." Again, p. 181, speaking of chronic inflammation, he says: "In the local treatment of slight degrees of simple *chronic inflammation*, especially in children, a small number of insufflations of pure Sozoiodole-Sodium, repeated every two to three days, often suffice." Again, p. 185, he says: "In the treatment of *ozena*, insufflations of Sozoiodole-Zinc in 1-2:10 of iodole are very efficient. Later, when the secretion has become less and the foul odor overcome, insufflations of pure Sozoiodole-Sodium suffice." In the treatment of *nasal parasites* and *fungi*, page 205, he says: "After removal of the parasites, Sozoiodole-Sodium should be freely insufflated daily until all disturbance has disappeared." Finally, speaking of *tuberculosis* and *lupus*, page 350, he says: "When the patients are much exhausted or live under unfavorable hygienic conditions, or when the local affection is very extensive and has advanced beyond the vocal cords, insufflations of Sozoiodole-Sodium are appropriate."

Most signal Success in Diseases of the Nose and Throat.

Dr. **Fr. Böhm**, of Niederverrn, writes as follows:

"Having used Sozoiodole in many cases of affections of the nose and throat with the most signal success, I feel it my duty to give you the following report of the results obtained. Before, however, I undertake to point out the uses of your preparation in an individual case, the description of which may gain in value, since it has reference to my own person, I may perhaps be permitted a few preliminary remarks.

"There are on the market four preparations of Sozoiodole—namely, Sozoiodole-Sodium, Sozoiodole-Potassium, Sozoiodole-Zinc, and Sozoiodole-Mercury. It is thus the duty of physicians to determine, upon the basis of accurate observation, those conditions in which each individual salt appears to be indicated. Whoever undertakes their administration without bearing this plan in mind will scarcely be satisfied with the effects; on the contrary, he might meet with failure, and perhaps attribute to the medicament what was in reality the result of his own unskillful management.

"I was busy with the determination of the method of their employment and the results, when a paper upon the same subject by my colleague, Dr. Seiffert, Lecturer in the University, Würzburg, appeared in the *Münchner med. Wochenschrift*. Upon the basis of my own experience I am in a position to wholly confirm the views there expressed. Of the various favorable results obtained it will suffice to give the following:

"As a result of exposure to stormy weather and the rapid changes of temperature between the sick-room and out-of-doors, I acquired a *naso-pharyngeal catarrh*, to which at first but little attention was paid. It gradually became more intense and took on a chronic character. The constant tantalizing sensation of dryness in the throat, the absence of secretion, the constantly recurring obstruction of the nose, difficulty of respiration, and occasional occurrence of asthma, and the enforced abstinence from favorite habits (such as smoking) caused me, after I had tried the ordinary remedies, to seek the advice of a friend who is a specialist. But faithful adherence to the advice here obtained, and even cauterization by means of electro-cautery, were not followed by an improvement worthy of the name. I then read of the newly discovered Sozoiodole preparations, and decided to give them a trial. I commenced with insufflations of Sozoiodole-Sodium (1:1 milk-sugar); but, as a favorable action was not noted, I resorted to Sozoiodole-Potassium (1:1), but here also my expectations were not realized; on the contrary, I observed an increase in the dryness of the nose and pharynx. I next tried Sozoiodole-Zinc (1:9), and found in it the right remedy. Even after the second insufflation of this preparation, an intense secretion from the mucous membrane followed; the dry, disagreeable, burning sensation in the throat disappeared, as a rule, within a short time after insufflation, and gave place to a feeling of comfort. The nasal mucous membrane secreted, and the air entered freely and unobstructed through the still somewhat narrowed nasal passages.

"After a fortnight's continued employment of this method of treatment, I could already notice a decided progress toward a cure of the pathological condition. Re-establishment and maintenance of the secretions were accompanied by subsidence of the swelling of the chronically thickened mucous membrane and the disappearance of the disagreeable symptoms. While I had been forced for half a year to wholly forego the pleasure of smoking, I could now humor this habit without provoking any aggravation of the affection. If any symptoms appeared, insufflations of the powder sufficed to almost immediately dissipate it.

"After I had thus demonstrated upon myself the agreeable action of Sozoiodole-Zinc, it was a pleasure to note the favorable influence of Sozoiodole-Potassium and Sozoiodole-Sodium upon my patients affected with other forms of chronic disturbance of the nasal and pharyngeal mucous membrane. In my opinion both remedies are indicated where abundant secretion is associated with the original affection. Under their action these affections are removed, and the results already detailed soon become manifest.

"From accurately and carefully conducted experiments upon myself and patients, I can assert that, in affections of the nose and throat, our materia medica has been greatly enriched by the introduction of the Sozoiodole preparations, which will be warmly welcomed by both physician and patient."

—Dr. C. **Stern** (Inaugural Dissertation, Düsseldorf) says the Sozoiodole preparations possess great advantages over iodoform, because iodine is not liberated during their use. Their action upon *wound surfaces* and *mucous membranes* is most valuable. The potassium salt possesses most decided astringent and desiccant properties. Con-antiseptic action. In the healing of operation wounds and as a therapeutic agent in *syphilis, tuberculous* and *scrofulous ulcerations*, it is unexcelled even by iodoform. Regarding the protracted action of iodoform, the same effect can be secured with Sozoiodole-Potassium, the latter manifesting neither caustic nor irritant action.

Successful when other Remedies Fail.

Dr. M. A. Fritsche, of Berlin, specialist in diseases of the nose, throat, larynx, and lungs, writes (in a private communication, Feb. 21, 1888) that he used Sozoiodole on a number of patients in both private and hospital practice. He first employed the potassium and sodium salts, chiefly pure; recently, however, he employed Sozoiodole-Zinc in 10–20%, and Sozoiodole-Mercury in 5-10%, triturations with milk-sugar. The most varied diseased conditions were treated, the results being of a highly satisfactory character. The sodium and potassium salts were of especial value in all catarrhal states of the air-passages (nose, throat, larynx) in which the secretions manifested a tendency to become dry, forming firm, tenacious deposits; for example, in dry or *atrophic nasal* and *naso-pharyngeal catarrh* in its various forms; in *ozena*, with or without ulceration; in *laryngitis sicca*, and in related pathological states. The secretions became fluid, the odor accompanying the ozena disappeared more or less completely by virtue of the antiseptic properties of the Sozoiodole, so that, after a comparatively brief period, a number of patients were discharged cured of their troubles. Likewise, in *hypertrophic nasal* and *naso-pharyngeal catarrhs*, or so-called *obstructive rhinitis*, insufflations of Sozoiodole-Sodium or Sozoiodole-Zinc, were of the greatest assistance; the swelling of the mucous membrane was much reduced, and respiration correspondingly facilitated.

In the employment of the Sozoiodole salts after *operations* upon the nose and pharynx, a decided tendency to heal was manifest,—no doubt, in consequence of the antiseptic action of the medicaments. Furthermore, on employment of the zinc compound, *tuberculous ulcerations* and granulations in the larynx and throat made rapid progress toward healing.

Very beautiful results were obtained with Sozoiodole-Mercury in cases of extremely chronic *ozena* which had resisted all other forms of medication; and the same can be said of its action in *syphilis of the nose and larynx* (even in tertiary forms), and of the *tongue*, in which the results were most brilliant.

Uniform Success.—No Disagreeable Effects.

Dr. Heinrich Schmaltz, of Dresden, writes that he employed the Sozoiodole preparations in rhinological, laryngological, and otological cases as follows: In 25 cases, Sozoiodole-Potassium; 5 cases, Sozoiodole-Mercury; 20 cases, Sozoiodole-Zinc; 11 cases, Sozoiodolic acid.

He has never had occasion to complain of disagreeable effects following their use. On the contrary, his success was so great that he feels it his duty to continue their employment. The mercury salt was especially valuable in *syphilis of the nasal cavity, pharynx*, and *larynx;* and the zinc compound in certain *chronic inflammatory conditions* of the mucous membrane of the middle ear.

Valuable in all forms of Rhinitis.

Dr. Hermann Suchannek, of Zurich, reports (*Corresp.-bl. f. Schweizer Aerzte*, 1889) excellent results from Sozoiodole-Potassium powder (1:2 talcum) in 6 cases of *chronic muco-purulent rhinitis*, 3 cases of *chronic purulent rhinitis*, and 2 of *chronic serous rhinitis*. Valuable service was rendered by Sozoiodole-Zinc (2:25 - 2:15 talcum) in *hypertrophic rhinitis* with abnormally scanty secretion, in *scrofulous rhinitis*, and in *ozena* (1:10 and 1:7.5). *Acute coryza* can be overcome by one or two applications of Sozoiodole-Zinc, after previous cocainization of the parts. If it is assumed that the etiological factor of coryza is a *contagium vivum*, then the prompt action of this salt in such cases is readily explained on the basis of its germicidal properties.

In *acute pharyngitis*, Sozoiodole-Zinc (5 per cent. every two hours) was successfully employed. Also in *pharyngitis sicca* insufflations of a 10 per cent. powder gave excellent results. The patients asserted that the disagreeable sensation of dryness gave place to a feeling of relief.

Sozoiodole-Mercury (1:20 to 1:10) locally applied with a brush or cotton swab, is warmly recommended in *syphilitic ulcerations*. In tuberculous affections of the larnyx Sozoiodole-Sodium is advocated, while in cases of *dry laryngitis* Sozoiodole-Zinc is spoken of most favorably. Sozoiodole-Potassium (5 per cent. with talcum) was employed in *varicose ulcers* of the leg, and (paste, 1:10) in inflammatory and *parasitic affections* of the skin, and in sluggish *wounds*. In conclusion, the author states that his results with Sozoiodole wholly correspond with the favorable reports of Fritsche and Seiffert (see page 58). He believes they are worthy of the warmest reception at the hands of all practitioners.

Completely replacing Iodoform.

The Sozoiodole salts have been employed by Dr. M. Teichmann (*Therap. Monatshefte*, 1894, p. 156) in diseases of the ear and upper air-passages for more than a year. In affections of the ear he used the potassium salt in the form of pure powder. Its action is siccative, as, for instance, in diffuse inflammation of the external auditory meatus with strong secretion. It was beneficial in a large number of chronic cases with extensive tympanum-defects, in restricting or removing secretion in a comparatively short time, and in restoring the mucous membrane of the tympanic cavity to the normal state. In the author's opinion, this salt efficiently combats the tendency to relapses in the formation of polypi in the tympanic cavity without caries.

He also recommends the sodium salt in cases where the potassium salt is not tolerated. In obstinate cases of *eczema of the nasal passages* and *syphilitic affections*, Sozoiodole-Mercury is said to effect a prompt cure as 1 to 2% ointment with lanolin.

In the various forms of *rhinitis* the author employed chiefly the potassium salt, in pure powder form. He obtained most favorable results with Sozoiodole-Zinc in *rhinitis fibrinosa* and *pharyngeal diphtheria*. In the after-treatment of *operations* on the nose and in throat, the potassium salt has completely replaced iodoform.

The aqueous secretion and frontal headache accompanying a malignant tumor were considerably diminished by the use of Sozoiodole-Zinc.

Better Results than from the Older Remedies.

Prof. KUHN, of the Imperial University Aural Clinic, Strassburg, writes (Jan. 28, 1889) that for some time past he has used the Sozoiodole preparations in nasal and naso-pharyngeal affections. In *chronic inflammatory conditions of the nose* and in *ozena*, they give much better results in overcoming the crust formation and odor than the various remedies heretofore employed. Whether true and permanent healing of ozena, for example, can be effected with the Sozoiodole preparations can only be determined after years of observation of these cases. However, they are the best of all remedies which have as yet been recommended in the treatment of such pathological states. He has now discarded iodoform.

—Dr. ANTON JOHN, of Starkstadt, reports that he has employed Sozoiodole-Potassium in a number of cases of *chronic rhinitis* with profuse secretion, and is much pleased with the results. The advantage of the medicament (used as snuff) is that it dissolves slowly upon the mucous membrane, thus exerting an astringent action through hours at a time.

—Dr. GOETZ, of Grosssachsenheim, writes (Feb. 13, 1889) that in *dry catarrh of the nasal mucous membrane*, as well as in *obstructive naso-pharyngitis*, Sozoiodole-Sodium insufflated in powder form has rendered him excellent service.

—Dr. STEINMEYER, of Braunschweig, reports most excellent and prompt action from insufflations of 10% Sozoiodole-Sodium in *chronic nasal catarrh*.

—Dr. G. APPING, of Wolmar, states (in a private communication to H. Trommsdorff, March 16, 1890) that he has used the Sozoiodole salts to good advantage in *catarrhal* and *ulcerative processes of the nose*.

Decidedly Beneficial. Prompt in Action.

Prof. STETTER ("*Arbeiten aus dem Ambulatorium u. d. Privatklinik f. Ohren-, Nasen-, u. Halsleiden*," 1893, No. 1, p. 29) writes that he has obtained decidedly beneficial effects in *rhinitis hypertrophica* from the use of Sozoiodole-Zinc with talcum (1:100). After a comparatively brief period of application, the swollen mucous membrane was markedly reduced.

Sozoiodole-Mercury was of inestimable value in the treatment of *syphilis*. He reports a case of ulceration of the pharynx which was rapidly brought to healing by the local application of this remedy.

In *myringitis chronica sicca*, the twice-daily instillation into the ear of acid Sozoiodolic in water; or in glycerin and olive oil (see formula 115), was attended by most gratifying results.

In a quite recent article (*Arbeiten aus dem Ambulatorium*, etc., 1895, No. 2, pp. 1-20), the same author reports four cases of *perforation* of the *tympanum* which were definitely healed within a few days after use of Sozoiodole-Zinc in solution (two per cent.) and powder form (1:10 talcum). The method was as follows: After removal of the pus by irrigation with lysol solution (1:300), the Sozoiodole-Zinc solution was dropped into the ear, or, according to the size of the perforation, the powder insufflated. After a few days, nothing but the dry powder was found in the auditory canal; and on careful removal of the powder, no more pus was seen. These favorable results have wholly revolutionized his former methods of treatment. Previous to the use of Sozoiodole, he had always avoided insufflation of powdered substances into the ear in cases of purulent otitis, because clogging of the perforations and subsequent retention of secretion could readily be originated and endanger the hearing, or even the life, of the patient.

Speaking of the comparative value of the Sozoiodole salts, he says: "After four years of constant and almost exclusive use of the Sozoiodole preparations, I do not hesitate to say that, in their antiseptic and disinfectant properties, they are perfect substitutes for *all* boric-acid and zinc preparations, so far as these have found application in diseases of the ear, nose, and throat.

"In *naso-pharyngeal affections*, Sozoiodole-Zinc and Sozoiodole-Potassium were employed with great effect, the latter in powder form (ten per cent.) with talcum, the former partly in powder (ten per cent.) partly in two per cent. solution. The affections treated included *rhinitis hypertrophica, coryza, ozena, chronic retro-nasal* and *pharyngeal catarrh.* In these cases the irritability, hyperemia, and swelling of the mucous membrane were quickly assuaged. In 85 cases of *acute* and *chronic laryngitis,* Sozoiodole-Zinc was employed with effect in powder form (ten per cent.) and two per cent. solution. The action was prompt, the congestion and hoarseness subsided. Rapid improvement was also noted in *tuberculous ulceration* of the *larynx.*"

—Excellent results were obtained by Dr. Jos. Herzog (*Therap. Monatshefte,* 1889, No. 8) in affections of the nose and throat. He was much pleased with the action of Sozoiodole-Sodium, but more so with that of the potassium salt (1:1 talcum). These preparations were of great value in simple *chronic rhinitis,* as well as in *retro-nasal catarrh.* Not only were the semi-mucoid or muco-purulent secretions rapidly dissipated, but the swelling of the mucous membrane subsided within a short period to such an extent as to render nasal respiration free and unobstructed.

Sozoiodole-Mercury in salve form (1:50 lanolin) was used with such success in *excoriations, rhagadena,* and *eczematous conditions* of the nostrils, that the author has concluded to use no other remedy in these cases. In ten of fourteen patients upon whom it was employed, he was able to convince himself of the beneficent action. Affections of the nostrils which were treated for weeks without benefit, healed within three to ten days.

Sozoiodole-Zinc (1–2:10) was employed in all forms of *chronic rhinitis.* It was particularly beneficial in so-called dry catarrh, in which it excited secretion and reduced the tumefaction of the mucous membrane. In *fetid forms,* a decided improvement in the odor was obtained, reducing the necessity of the douche to a minimum. Those who are familiar with the quantity of fluid which was formerly required to secure even halfway cleansing of the nostrils by means of irrigation, will appreciate the value of this preparation.

Sozoiodole-Potassium was used with good effect in *tuberculous laryngitis.* The voice became clearer, speech easier, and the mucus was more readily expelled. In conclusion, the author states it as his belief that rhinolaryngological therapy has not only been greatly enriched, but much simplified, by the introduction of the Sozoiodole preparations.

—Prof. Moritz Schmidt, of Frankfort-on-Main, states that he is much pleased with the Sozoiodole salts,—especially in *dry catarrhs* of the naso-pharynx, larynx, and bronchi. They are also very effective in *ozena.* In *tuberculous laryngitis* they are useful adjuvants.

Sozoiodole in Venereal Diseases

Most Pronounced and Rapid Action in Syphilis.

Prof. Ernst Schwimmer, of Budapest, writing upon the therapeutic value of Sozoiodole-Mercury in *syphilitic affections* (*Wiener klin. Wochenschr.,* 1891, No. 26), says he is most favorably impressed with the results he has obtained. Such pronounced and rapid action as he observed following the administration of this salt, in the primary stages of syphilis, could not have been secured in the same space of time with any other internal remedy. The inunction method alone approaches it.

The author treated more than 200 cases with subcutaneous injections of Sozoiodole-Mercury. Arranged according to groups, they are: (1) Primary indurations without constitutional manifestations, 31; (2) affections of the skin and mucous membranes, with and without coexistent induration, 125; (3) broad, flat condylomata, 38; (4) gummous and ulcerating syphilides, 36. The great majority of these received no other form of treatment.

According to Prof. Schwimmer, the curative value of Sozoiodole-Mercury when administered subcutaneously is greater than that of any other remedy he has ever used against syphilis. He therefore unhesitatingly recommends it in the strongest terms.

—The same author writes, under date of June 16, 1895, that of late he first injects into affected parts a Pravaz-syringeful (1 Cc. [16 min.]) of a 4 to 5% solution of cocaine hydrochlorate. After the expiration of six minutes, the solution of Sozoiodole-Mercury is injected.

Under such circumstances, the pain is scarcely worthy of mention; indeed it is stated that it is often entirely absent.

—Prof. Schwimmer writes further, under date of June 22, 1895, that he very frequently employs Sozoiodole-Mercury *internally* in syphilis, in the following form:

Sozoiodole-Mercury	1 Gm. (15 grn.)
Opium	0.2 Gm. (3 grn.)
Ext. Gentian	To make 30 pills

One pill noon and night.

The action, he says, is identical with the most commonly employed mercury preparations, such as the salicylate, bichloride, etc.

—Prof. Schwimmer, replying to the assertions of Dr. Frolow (*Vratsch,* 1893, p. 601) and F. Riederer (*Pharm. Ztg. f. Russl.,* 1893, p. 101), according to whom the Sozoiodole-Mercury in Prof. Schwimmer's formula undergoes decomposition, says he has now employed Sozoiodole-Mercury almost exclusively for four years, and can fully confirm the favorable results attained in his early experience with the remedy. His formula yields a beautiful clear solution, applicable to medicinal purposes and possessing reliable and positive antisyphilitic properties. Its rapid penetration into the organism is not only shown by its favorable action on the process of the disease, but also by the presence of mercury in the patient's secretions within four hours after subcutaneous injection. A sufficient quantity of mercury, therefore, quickly enters the circulation.

Prof. Schwimmer's statements have been confirmed by numerous observers; for example, by Prof. Janovsky, of Prague; Prof. Neumann, of Vienna; Merck, of Darmstadt; in the clinics of the late Prof. Lippe, of Gratz; and by Dr. Endlitz, of Prof. Fournier's clinic, Paris.

Sozoiodole-Mercury, therefore, unites the advantages of the sparingly soluble preparations without possessing their disadvantages; and Frolow's assertion that its action cannot be studied in antisyphilitic treatment, because the Sozoiodole-Mercury is not suspended, is not in accordance with facts.

Sozoiodole-Zinc was employed with excellent results in a large number of cases of *acute* and *chronic gonorrhea* (see Formulas 91 and 92). The solution used by me, with or without opium, was always well borne. In all cases of *acute gonorrhea*, after the inflammatory stage had passed—on the 6th to 7th day—injections into the urethra 3–4 times daily were always followed by the rapid subsidence of the secretion and pain. From this it is seen the action was more rapid than in the case of many of the well-known zinc preparations. In chronic cases, Sozoiodole-Zinc was combined with bismuth salicylate with good effect. The astringent action of Sozoiodole-Zinc was also pronounced in *catarrhal inflammatory* states of the *nose* and *throat.*

The Sodium and Potassium salts were employed in powder form and as salve in idiopathic as well as in constitutional affections—*syphilitic ulcers* (see Formulas 18–19). In *erythema, pustules, incised* and *lacerated wounds* and *burns* of mild degree, Sozoiodole-Sodium caused rapid appearance of healthy granulations. In *open buboes,* the same favorable action was noted when the parts were dusted with Sozoiodole-Lycopodium and covered with sublimate gauze. As the preparation is wholly devoid of odor, it is strongly to be recommended in private practice. In *bladder affections,* Sozoiodole-Sodium (1 per cent.) was employed for purposes of irrigation with satisfying consequences. In *catarrhal conditions* of the *nasal mucous membrane,* a 1 per cent. solution of Sozoiodole-Sodium is indicated; even in *ozena* it exerts a favorable influence.

The Potassium salt, in salve and powder form, was used with success in *syphilitic ulcers.*

Upon the basis of a large series of observations upon syphilitic patients, Dr. MOISE ENDLITZ, of Paris ("Trait. Hypodermique d. l. Syph. par les Sels mercuriels en général et par le Sozojodolate de Mercure en particulier") confirms the favorable results of Prof. Schwimmer. He employed Schwimmer's Sozoiodole-Mercury formula for subcutaneous injection, and declares it to be an extraordinarily effective remedy. In men, the dose was 0.08 gme.; in women, 0.06 gme. for each injection.

Brilliant Results in Gonorrhea, Chancres, Buboes, etc.

Dr. S. SCHWARZ, of Constantinople, reports (*Revue médico-pharm.*, 1889, No. 7), that in catarrhs of any of the mucous surfaces, the use of Sozoiodole-Zinc was distinguished by most brilliant results.

The same is said of its employment in chronic and neglected *gonorrhea,* in which cure was attained in the remarkably short period of 3 to 10 days. The usual method was to inject 3 times daily a 1½ to 2% solution. It should here be remarked that the employment of a stronger solution is liable to increase the inflammatory process; on the other hand, a too weak solution has but little therapeutic value.

In chronic cases a little opium is added, as in the following:

Sozoiodole-Zinc	1 part
Distilled Water	50 parts
Wine Opium	1 part

The same holds good for *catarrhal angina* accompanied by profuse secretion of mucus. As a gargle, in 1 to 3% solutions, Sozoiodole-Zinc is reported to be of great service in these cases.

Sozoiodole-Potassium was used in 5 to 8% dusting-powders (with talcum or starch), or salves (with vaselin or lanolin), in *hard chancres* which manifested no tendency to heal, in *chronic syphilitic ulcers,* in hard and *suppurating buboes*; and in all these conditions cures were obtained in a comparatively short time. With Sozoiodole-Potassium the dressings must be renewed twice daily; with Sozoiodole-Sodium at least 3 to 5 times daily.

As an injection in 3% solution, or as 5% snuff with cubebs, Sozoiodole-Sodium rendered excellent service in ozena. The offensive odor always disappeared within 3 or 4 days of treatment. The same is true of Sozoiodole-Zinc when used as insufflation in chronic nasal catarrh.

Since the author commenced the employment of the Sozoiodole preparations, he has almost entirely given up the use of iodoform; indeed, he believes the time is not far distant when the latter will be wholly replaced by the Sozoiodole salts.

One of the Best Subcutaneous Antisyphilitics.

Prof. V. JANOVSKY, of Prague, has published (*Casopis-Lékaru Ceskych,* 1892, Nos. 19, 21, 22) a report upon the treatment of syphilis by injections of Sozoiodole-Mercury, in which he claims the following results:

Simple macular and papular exanthemata, and such associated with condylomata, usually disappeared after 3 or 4 injections. In cases of the large form of papular exanthem, 5 to 6 injections were necessary. Primary affections, which for some time before the introduction of the injections had been treated by local therapy, usually healed after 2 injections. Affections of the mucous membranes such as mucous patches and fissures upon the lips, cheeks, and tonsils, and inner surface of the labia, usually required 3 injections. In mild cases 2 injections sufficed. The action upon condylomata was variable; a few small condylomata were healed after 1 to 2 injections, but the great majority of the cases required 3 to 4, and in extensive, partially disintegrated forms associated with great edema of the surrounding parts, 5 to 6 injections were necessary; in one case 8.

In view of these favorable achievements, the author believes Sozoiodole-Mercury deserves to be classed with the best of subcutaneous remedies. Its chief advantage is that it does not give rise to those numerous disagreeable effects which were often observed in other, principally non-soluble, preparations. Its action in syphilis is rapid and most gratifying.

Sozoiodole-Mercury Preferable to Corrosive Sublimate in Syphilis.

Dr. M. Oro, of Naples (*Terapia Clinica*, 1894, No. 1), instituted experiments upon 100 patients to ascertain the action in syphilis of subcutaneous injections of Sozoiodole-Mercury. He used Prof. Schwimmer's formula (see above). His investigations demonstrated the specific action of this salt of mercury to be as follows: 2 to 3 injections suffice to cause regression of the condylomata, roseola, and rheumatism present in such cases; 3 to 4 sufficed to overcome papular syphilis; 4 to 6, for pustular forms; 5 to 10, for neoplastic and ulcerative forms.

He is of the opinion that Sozoiodole-Mercury is to be preferred to the other soluble salts because of the limited number of injections necessary for curative treatment.

The author's conclusions are as follows: (1) Sozoiodole-Mercury is destined to become largely employed in the hypodermic therapy of syphilis; (2) the injections may be given either in the back or the buttocks, at intervals of 6 to 10 days, combined, as in all cases of syphilis, with buccal hygiene; (3) it is no more painful than corrosive sublimate, to which it is preferable, because of the few injections (8 to 12) required; (4) while it does not prevent recurrence any more than the other mercury salts, it is much rarer after its use.

—Dr. Bayet (*Jour. des Malad. cutan.*, 1895, VII, p. 200) recommends the following for the subcutaneous treatment of syphilis:

Sozoiodole-Mercury............	0.25 Gm. (4 grn.)
Sodium Chloride..............	0.06 Gm. (¾ grn.)
Distilled Water..............	30. Gm. (1 fl. oz.)

The injections are made daily.

One of the great advantages in this method, the author considers, is that the physician has complete control of the treatment; he thinks it an efficacious method.

Most Excellent Results in Chancres, Chancroids, etc.

Dr. Alfred Matschke, of Bromberg, writes under date of Oct. 27, 1894, as follows:

"The results which I have obtained with the Sozoiodole preparations are most excellent. I have employed the Potassium and Sodium salts, in pure powder form, in *chancres*, *ulcers*, and *suppurating wounds*, and secured very rapid cleansing and healing of the ulcers. In general, both preparations were of equal value (about 75 persons were treated with them); perhaps the results obtained with Sozoiodole-Potassium were somewhat better, since the sodium salt in crystalline form occasionally excited irritation and caused enlargement of the ulcers.[11] However, my results were better with finely powdered Sozoiodole-Sodium.

"The ulcers became clean, no slough formed, as is the case with iodoform, under which thick pus collects; on the contrary, suppuration was slight and did not separate the granulations. In urethral chancroids good results followed the introduction of bougies containing 10% of Sozoiodole-Potassium or Sozoiodole-Sodium.

"Sozoiodole-Mercury was frequently employed with good effect. The directions of Prof. Schwimmer were carefully followed. In fresh syphilitic affections, 8 injections (every 4 or 5 days) usually sufficed to cause all manifestations to disappear. In relapses, sometimes 4, at most 6, injections were necessary. At first I injected subcutaneously into the thigh, arm, and back; but this was extremely painful. Usually infiltration occurred, and once an abscess about the size of a 5c. nickel developed—not at the point of needle puncture, but at that point where the cannula ended. From that time on all injections were made intramuscularly in the gluteal region, and were attended by scarcely any pain and never by even the slightest infiltration, much less abscess."

—Dr. Arthur Dräer, of Königsberg, reports (March 13, 1894) that in addition to his experimental work he has also employed Sozoiodole-Sodium in several cases of soft chancre, and with the most excellent success. He now makes constant use of this preparation in *ulcus molle*.

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[11] As has already been mentioned in the Introduction, the crystalline salts of Sozoiodole—the sodium and zinc compounds—when employed as dusting-powders, should be used only in the form of the finest possible trituration.

Specific in Soft Chancre. Far Superior to Iodoform.

Dr. Trapesnikow, of St. Petersburg, reports (*Therapeut. Blätter*, 1893, No. 2) that he has used Sozoiodole-Mercury, -Zinc, and -Sodium; the two first in *syphilis* and *gonorrhea*, the last in *ulcus molle*. In day laborers affected with soft chancres, who kept their parts in a most filthy state, and in whom a number of ulcers in close proximity to each other were met with, success was most pronounced—one or two applications of the pure salt sufficing for a cure. Care should be taken to apply the powder under the margins of the sore. The same short period is required for the healing of *gangrenous* and *phagedenic ulcers*.

When the healing process of *ulcus molle* under iodoform, on the one hand, and that under Sozoiodole-Sodium, on the other, are compared, it is plain that the latter mode of treatment is far superior to the former. Indeed, the author goes so far as to consider Sozoiodole-Sodium as a specific in the treatment of these cases. In spite of its great antibacterial properties, this salt never produced even the slightest symptoms of intoxication. A large *suppurating* inguinal *ulcer*, four inches long by two inches in width, with intensely thickened, deeply undermined margins and extremely painful base, had been unsuccessfully treated with various medicaments. After three or four applications of the pure powder of Sozoiodole-Sodium, a pronounced improvement was noticed. The margins of the wound became clean and the purulent discharge subsided. On the 6th day, healthy granulations made their appearance, and cure was established within 16 days. An *ulcer* of the *penis*, ineffectually treated for four months with other remedies, was healed in four weeks. A large *phagedenic ulcer* of the *penis*, treated without effect for one and one-half months with other remedies (two weeks of the time with iodoform exclusively), was healed in nineteen days under the favorable influence of Sozoiodole-Sodium.

—Dr. Johannes Mihocinovic, Imperial Regiment Physician, of Kreutz (Croatien), writes, under date of Nov. 16, 1894, as follows:

"My experience with Sozoiodole-Sodium, -Zinc, -Mercury in *chancroids*, *gonorrhea*, and *constitutional syphilis*, respectively, has brought me such a measure of both gratitude and money from my patients that I feel obliged to thank the fate which permitted me to enter upon the study of medicine. When I recall the many disappointments which I experienced with the most varied and much extolled trash recommended as 'specifics' in the above-named diseases during my 30 years of active service as a military physician, I thank Providence for granting me the privilege of living to witness this triumph of human intelligence over ignorance and the ancient and inborn custom of 'groping in the dark.'"

Uniformly Good Results in Venereal Affections.

Dr. Julius Koch, of Vienna, (*Wien. klin. Wochenschr.*, 1891, Nos. 43 and 44) made an extensive series of tests with the Sozoiodole preparations upon 91 patients suffering from various venereal disorders. Venereal *ulcers* and ulcerating *adenitis* were treated with marked success. Similar experience was noted in the treatment of *gonorrhea*. In forty-four cases of the latter affection, Sozoiodole-Zinc solution (1:100) injected thrice daily, gave the most gratifying results within a few days. Sozoiodole-Mercury was employed as a one per cent. salve (Sozoiodole-Mercury 1, vaselin 100) in *chancre*, *chancroid* and in a series of *varicose ulcers* of the feet. In all, thirty cases were treated with this salve, the application of which was not attended by any serious discomfort. In all instances, rapid and definite healing was secured. This salve is especially indicated in the treatment of wounds with eczematous surroundings, since it prevents further extension of this troublesome complication. The salve was spread upon folded sterilized gauze which was applied as bandage and allowed to remain in position for five days. In venereal ulcers it was necessary to renew the dressings twice.

Sozoiodole-Sodium in two-per-cent. solution prevents the development of the pyogenic cocci. This preparation was employed with success in a number of cases of *varicose ulcers* of the feet. If the ulcers were dry, the powder was dusted on and the parts covered with gauze moistened with boiled water, and then securely bandaged. If moist, dry dressings sufficed. Sozoiodole-Sodium is especially to be recommended when it is desired to quickly and energetically cleanse *infected* and *sloughing wounds*.

In the treatment of *venereal ulcers* and *ulcerative adenitis*, Sozoiodole-Potassium was found effective in cases where iodoform failed. In these cases the parts were dusted with the powder and dressed daily.

During the treatment of the various affections above recorded, the remedy was always reliable and fulfilled its purpose in the most satisfactory manner. Local or general concomitant action of an injurious nature was never observed. The application of the medicament was painless and willingly submitted to by the patients. In the treatment of *wounds* its value is considered as far greater than that of the much vaunted and often dangerous iodoform.

—Dr. Gaudin, of the Hôpital St. Louis, Paris, has published a special pamphlet in which he gives the results obtained with Sozoiodole in eight cases of venereal, skin, and gynecological affections, such as *chancre*, *impetigo, gonorrhea, ulceration of cervix, furunculosis, erysipelas,* and *eczema.* In all of his cases the exhibition of the Sozoiodole salts was attended by the most perfect results.

In a case of *syphilitic ulcers,* treatment with Sozoiodole-Mercury plaster (4 per cent.) resulted in a cure within a period of four weeks. A case of *impetigo* was completely cured within five weeks after daily inunctions of Sozoiodole-Zinc salve (10 per cent.) A case of *gonorrhea* unsuccessfully treated with numerous remedies, among which were potassium permanganate (1:1000), and silver nitrate (1:100), was healed in 5 to 6 days by injections of 1-per-cent. solution of Sozoiodole-Zinc. Another case of the same nature took a similar course under the twice-daily employment of Sozoiodole-Zinc (1:100). In cases of *ulcer* of the *cervix,* Sozoiodole-Sodium and Sozoiodole-Potassium have been of the greatest service. No disagreeable by-effects or toxic phenomena were noted. A case of *furunculous eruption* was treated by wrapping in cotton bandages soaked in a solution of Sozoiodole-Sodium (5:100) and covering with gutta-percha tissue. After eight days the furunculous eruption had subsided and the old furuncles began to cicatrize. In this case Sozoiodole-Sodium exerted the same action as 1:1000 bi-chloride of mercury solution, with the advantage that no toxic effects were produced. In the author's opinion, Sozoiodole-Sodium (5:100) is as effective and much less irritant than 1:1000 bi-chloride. In a case of *facial erysipelas,* Sozoiodole-Zinc collodion (25 per cent.) was ordered. On the fourth day, the temperature began to decline and the erysipelas to disappear. The formula of the collodion is:

Sozoiodole-Zinc	25 parts
Ether	25 parts
Collodion	50 parts

The immediate effects were exceptional; the pain and tension were reduced after the lapse of six hours, and the disease made no further progress. On the fifth day the appetite was fully restored, and on the sixth to seventh day desquamation was completed. A case of *symmetrical eczema* which resisted treatment with borax-water compresses, zinc-oxide paste and bismuth subnitrate, was healed in six days by the use of borax and Sozoiodole-Zinc salve.

—Dr. **ALFRED MAYER**, of Berlin, reports (in a private communication to H. Trommsdorff, dated Feb. 12, 1889) that in six cases of *acute gonorrhea* he first employed a 1%, then, two days subsequently, a 1½%, and on the following days a 3% solution of Sozoiodole-Zinc. He first irrigated the urethra with two syringefuls of lukewarm water, and then made the injections.

On the first day after use of the remedy, the patient complained of burning in the urethra, which, however, wholly disappeared on the following day along with all symptoms of irritation. In 6 to 10 days the discharge ceased. In the author's opinion, Sozoiodole-Zinc can be warmly recommended in acute gonorrhea.

In *chronic gonorrhea* the strength of the injections was increased to 3%. The discharge ceased after the expiration of 3 weeks.

—Dr. L. **FRIEDHEIM**, of Breslau, of Prof. Neisser's clinic (*Archiv. f. Derm. u. Syph.*, 1889, p. 537), describing his experiments with various antibacterial remedies in the treatment of *acute gonorrhea,* says that the potassium, sodium, and zinc compounds of Sozoiodole actively favor the desquamation of the epithelial cells, at the same time reducing the amount of secretion and inhibiting the growth of the gonococci. Phenomena of irritation never became manifest; on the contrary, the secretions rapidly lost their purulent character.

—Under date of March 16th, 1896, Dr. H. C. **DUNAVANT**, Health Commissioner, Little Rock, Ark., reports a case of *urethral chancre* which could not be healed until bougies, composed of cacao-butter and Sozoiodole-Zinc, were employed. These brought about a decided change for the better, when a watery solution of Sozoiodole-Zinc (1 grn.: 1 oz.) was used as a wash. After ten days of this treatment, the chancre was about well.

SOZOIODOLE IN EYE AND EAR DISEASES

Very Efficacious in Corneal Ulcer.

Cauterization with crystals of Sozoiodole-Zinc has proved very efficacious in the hands of Dr. NICATI (*Med. Week.*, 1893, No. 38) in the treatment of corneal ulcer. The ulcerated surface having been anesthetized with cocaine, it is touched with crystals of Sozoiodole-Zinc on the point of a wet needle. Cauterization is followed by the formation of a white slough with no tendency to extension. This permits of the caustic action of the remedy being strictly localized to the affected parts. The application is repeated daily, until the corneal opacity has entirely disappeared.

According to Dr. Nicati, the development of the infective micro-organisms is effectually and rapidly arrested by this treatment, which involves but limited destruction of corneal tissue, the damage to the cornea being much less extensive than with galvano-cautery, for example.

—In cases of ulcers of the cornea which are not sufficiently grave from their size or depth to require operative interference, and in slow, painless diseases of the cornea—such as diffuse keratitis and keratitis punctata when of a superficial character—Dr. **GOLDZIEHER** (*Med. Chronicle*, 1895, III, p. 220) has used to advantage the following ointment:

Sozoiodole-Sodium	5 parts
Atropine Sulphate	1 part
Vaselin	200 parts

The ointment is placed between the lids, very much as is the custom in using the well-known ointment of yellow oxide of mercury. Eserine may be prescribed in the place of atropine, as the case may require.

Excellent Results in Otorrhea.

Dr. E. Friedländer, of Skole, Galicia, writes, under date of Oct. 25, 1894, as follows:

"I first employed Sozoiodole-Sodium in a number of cases of chronic otitis media, and with very good results. . . Mr. R., aged 40 years; merchant; has suffered for a number of years with perforation of the tympanum, the result of an acute attack of otitis. Considerable otorrhea accompanied the trouble. Prof. Gruber, Vienna, treated him with air douches, irrigations of potassium permanganate, and ordered an iodine bath, which the patient took in Galicia (Ivonicz) for six weeks. Slight improvement followed. The patient continued this treatment, except the iodine baths, for two years, but the otorrhea continued, in a somewhat less degree.

"I began the treatment of the case with insufflations of Sozoiodole-Zinc—not pure, however, because the patient complained of pricking and burning, but mixed with talcum (1:10). After each insufflation I plugged the external aural canal with a cotton tampon medicated with a little Sozoiodole-Sodium. The procedure was repeated four times a week, after previous irrigations with lukewarm water. After the expiration of about four weeks, the otorrhea ceased entirely.

"I then had the opportunity of observing the patient for six months. Any pronounced degree of otorrhea was out of the question. Only when the patient indulged in excesses—*e.g.*, smoked too much, or acquired an intense nasal catarrh from catching cold—did a little discharge show itself, and this the patient himself was able to arrest by an insufflation of the Sozoiodole.

"A similar result was obtained in a 1½-year-old scrofulous child suffering from otorrhea and ozena. The latter affection I treated with cotton tampons smeared with Sozoiodole-Mercury salve, which were alternately introduced into the nostrils, first into one, then into the other, where they remained for several hours. A lukewarm irrigation with a ½ to 1% solution of Sozoiodole-Zinc always followed. The otorrhea resisted treatment, but the ozena improved and was wholly cured on further use of the treatment.

"Incited by the favorable results obtained in both of these cases, I made frequent use of the Sozoiodole salts. Sozoiodole-Zinc, always mixed with starch or talcum, gave me the greatest satisfaction in several forms of eczema occurring in children; while Sozoiodole-Mercury rendered very good service in varicose ulcers of the leg.

"Therefore, I consider the Sozoiodole salts most valuable additions to our materia medica, and I believe they will soon be adopted by the great majority of intelligent physicians."

Most Satisfactory Results in Purulent Otitis Media.

Dr. V. Grazzi, of Florence, gives an account (*Bollet. d. Mal. d. Orecchio della Gola e del Naso*, 1891, No. 5) of his experience with the Sozoiodole preparations in affections of the ear. He employed Sozoiodole-Potassium in many cases of chronic purulent inflammation of the middle ear, always using 3 to 10% lukewarm solutions, and injecting once daily about 100 Gm. (3 fl. oz.) of the fluid, either into the external ear or directly into the tympanic cavity, by means of Hartmann's cannula or a very small tube. The parts were then dried with absorbent cotton, and Sozoiodole-Potassium combined with talcum (1:6) insufflated as deeply as possible. The patients were given some of this powder, and instructed to insufflate the ear before retiring, or on the following day, should the external ear be found moist.

After ten to fifteen applications the treatment was suspended in order to determine whether the otorrhea, which had apparently disappeared, would return. In a few cases it was necessary to begin the treatment anew, the dosage being increased, and the external ear, instead of being insufflated, completely filled with the powder mentioned. This was gradually increased in strength until the pure Sozoiodole was reached. His results were most satisfactory.

—Dr. Joseph Aumer, of Obing, writes (in a private communication bearing the date Nov. 24, 1894) that he has employed Sozoiodole in 9 cases of purulent otitis media (1 to 2:10 boric acid). To his entire satisfaction all cases were cured within a period of three to five weeks by insufflations of Sozoiodole-Zinc in trituration, applied after previous cleansing of the parts with 1% lysol solution and drying with sublimate cotton. One case in particular—a case of purulent otitis media with medium-sized perforation and of five years' standing—which resisted the employment of iodoform, aristol, boric-acid, and dermatol insufflations, the introduction of balsam-of-peru cotton, and the instillation of naphtol—a case which had already run the gauntlet of the whole therapeutic armamentarium at my own and other hands—was definitely healed within a period of four weeks, and without a relapse.

The author uses a trituration with talcum

1:2 to 10, in preference to such with boric acid, because with the latter he sometimes observed retention of secretion. Self-insufflation with Sozoiodole-Zinc and talcum trituration, unless controlled by the physician, is also likely to result in retention of the pus.

—Dr. W. **Krause**, of Prof. Stetter's clinic in Königsberg (Dissertation, Erlangen, 1892), has employed the following in 33 cases of purulent otitis media:

Sozoiodole-Zinc (powder)	1 part
Talcum	10 parts

According to his experience, Sozoiodole-Zinc exerts no influence upon exuberant granulations; if, however, the latter have been overcome by other methods, the salt mentioned is a specific in these cases of purulent inflammation. In many instances he obtained good results in cases which, for weeks and months, remained uninfluenced by other remedies, such as boric acid, dermatol, aristol, and the like.

Careful cleansing of the mucous membrane of the middle ear is absolutely essential for perfect results, since it is only by the direct contact of the medicament with the mucous membrane that a full action of the remedy can be secured.

The action of Sozoiodole-Zinc in these cases is astringent and germicidal. The latter effect is most distinctly seen in the early arrest of the putrid odor. Parallel experiments with solutions of lysol showed the latter to be inferior in action in this respect to Sozoiodole-Zinc. In *ozena*, Sozoiodole-Zinc exhibited very good therapeutic results; the fetid odor was quickly overcome and the ulcers soon cicatrized. The author believes the comparatively rapid healing action of Sozoiodole-Zinc in ulcerated surfaces is to be attributed to its remarkable cicatrizing properties.

Excellent Effect in Aural Polypi.

Dr. **Klammann**, of Lückenwalde (*Allg. med. Central-Zeitung*, 1892, No. 49), reports most excellent results in the treatment of *aural polypi* with Sozoiodole-Mercury. He treated three cases—two in adults and one in a child. It is most energetic in its action, and must therefore be used with caution.

The method of application is as follows: After previous cleansing of the ear by syringing and drying, a very small amount of Sozoiodole-Mercury in powder form was blown upon the tumor, allowed to remain for half an hour, and then removed by syringing. For instillation into the ear, a solution of Sozoiodole-Zinc (1:49) was ordered.

In one of the cases reported by the author, a polyp the size of a pea was extruded after three days use of this treatment. He also expresses the belief that nasal polypi can quickly be dissipated by this remedy

He speaks most favorably of the zinc salt in the same class of cases.

SOZOIODOLE IN DENTISTRY

Superior Prophylactic against Periostitis and Gingivitis.

Dr. **Buckeisen**, of Innsbruck, under date of June 14, 1895, writes concerning the remarkable prophylactic properties of Sozoiodole-Zinc in those instances where there is danger of the development of dental periostitis and gingivitis. He says a rich experience has taught him that, as soon as it is possible to apply an antiphlogistic remedy directly to the root of a tooth, no relapse of the evil occurs. Even damp weather, which so often is a potent cause of the development of swollen faces, is powerless in the presence of such an agent.

The Sozoiodole-Zinc is employed in the pure state. For application over night, a cotton tampon may be chosen with advantage, in order to secure long fixation to the affected tooth. During the day, the amount adhering to the moistened finger-tip is applied to the affected tooth or its base. In its simplicity and the readiness with which it can be applied upon the slightest indication of trouble, lie its chief advantages over silver nitrate. Salivation, so often observed on exhibition of silver nitrate, was never observed, and for this reason greater certainty of success can be expected.

The author further reports that, with the exception, perhaps, of resorcin, no remedy was heretofore known to him as a prophylactic to the "odor of rotten eggs" accompanying *eructations* from the stomach. After noting that the oral mucous membrane suffered no ill effects from the use of Sozoiodole-Zinc in substance, he swallowed small quantities of it (about as much as can be held on the point of a small knife-blade or on the finger-tip), with the result that the "rotten-egg" ferment, usually attended by diarrhea, was wholly overcome!

Most Valuable Disinfectant.

Dr. **Chas. Dunn**, dentist, of Florence, writes under date of Feb. 17, 1889, that he has employed the Sozoiodole preparations in more than fifty different cases occurring in dental practice, and in all, without exception, they have proved to be the most valuable of disinfectants. As they are wholly devoid of odor, their use is much more agreeable to the patients than that of iodoform, carbolic acid, and similar disinfectants.

Excellent Filling-material and Disinfectant.

Dr. **Reisert**, dentist, of Erfurt, reports (*Deutsche Monatshefte f. Zahnheilkunde*, 1888) upon the employment of Sozoiodole in dentistry as follows: The Sozoiodole salts should only be used in a finely powdered state. As a *filling-material* for the roots of dead teeth, mix together Sozoiodole-Sodium 1 part and Sozoiodole-Potassium 2 parts, with pure glycerin to a paste, and introduce into the root-cavity after the latter has been cleansed and freed from all nerve remnants. The Sodium salt protects the teeth against *periostitis* in by far the majority of cases. From this it is plain that the sodium salt gradually passes through the apex of the root, while the potassium salt, which is but slightly soluble, remains *in loco*. Furthermore, the Sozoiodole preparations exert a most favorable healing action upon pulp laid bare in the process of excavation.

A concentrated solution of Sozoiodole-Sodium (6–8%) quickly heals the various forms of *cancrum oris*. A 2% mouth-wash or tooth-powder (Sozoiodole-Sodium 1 part; chalk 50 parts) is also a most excellent *disinfectant*, and can be warmly recommended.

Superseding Iodoform. Absolutely Nontoxic.

Dr. Ant. J. Hartmann, of Münster i. W. (*Deut. Monatshefte f. Zahnheilkunde*, Sept., 1890), in writing of Sozoiodole in dental practice, says it meets all the demands which can justly be made upon an antiseptic. It is wholly devoid of disagreeable properties, almost tasteless, and, in the amounts that are usually employed in dentistry, is absolutely nontoxic.

For many months he has made use of Sozoiodole-Potassium to the entire exclusion of iodoform. He always employs it in dry, pure form.

In the employment of Sozoiodole, the author calls attention to a matter which, he believes, has not been sufficiently recognized: If a tooth is treated with carbolic acid or iodoform, the cotton tampon smells strongly of the medicament, and whatever foul odor is present is thereby obscured. If the operator is not thoroughly conscientious in his work, or his sense of smell is at all obtunded, the detection of the foul odor indicating septic processes may readily be overlooked. As Sozoiodole is devoid of odor, no such objection can be raised.

SOZOIODOLE IN DIPHTHERIA

Wellnigh a Specific.—Unparalleled Success.

Dr. S. Schwarz, Constantinople, writing (*Internat. klin. Rundschau*, 1892, No. 21) on the therapeutic value of Sozoiodole in diphtheria, says:

"An experience of three years convinces me that Sozoiodole-Sodium, even in large doses (50 grn. [3.2 Gm.] daily), is absolutely harmless. At the outset of the treatment I always mix this preparation with sulphur (Sozoiodole-Sodium, 45 grn., Flowers of Sulphur, 180 grn.), and insufflate every 4 hours by means of a stiff paper tube, which is used but once. Even when no symptom is present in the nose and larynx, I always treat these with the powder, in order to avoid unpleasant combinations. Further, I administer every hour a teaspoonful of a ¼ to ½% solution of potassium chlorate. I direct my attention principally to the heart's activity, and hence frequently also give stimulants, generally a decoction of cinchona bark with Cognac or Malaga. The diet is confined to fluid nourishment, as milk and bouillon with yolk of egg, but is given very often in order to maintain the strength. Mercurial ointment may be rubbed in against glandular swelling. The insufflations are continued several times daily for some days after the processes have disappeared, and no relapse has ever been observed. The dangerous form of the disease, accompanied by retention of urine, of which I had two cases, was met with large doses of calomel. Even after the second insufflation the temperature rapidly declines, the dirty-gray exudate becomes lighter in color, and the general condition is much improved. After the expiration of 24 hours, the temperature is usually between 36.5° and 37.5° C. (98° to 99° F.), and even in the most unfavorable cases never rises above 38° C. (100.4° F.).

"From this it appears that, in consequence of its rapidly soluble nature, Sozoiodole-Sodium not only penetrates the smallest lacunæ of the tonsils, and there destroys the bacilli, but that it also quickly enters the circulation, where it neutralizes the pyogenetic action of the absorbed streptococci.

"The success that I have met with up to the present in the use of Sozoiodole salts in laryngeal affections in general, and especially in diphtheria, induces me to recommend these excellent antiseptics to colleagues for further trial. It would be especially interesting if bacteriologists would study the action of Sozoiodole preparations upon pure cultivations of the Löffler bacillus. It appears to me beyond doubt that these preparations have an extremely inimical effect upon the development of the bacillus, but whether the mixture of Sozoiodole with saliva works more or less favorably is a question for the bacteriologists to decide."

The author's observations extend over a series of 70 cases. In a quite recent communication (*Amer. Medico-Surg. Bull.*, 1895, pp. 1294–1299) upon the prophylaxis and treatment of diphtheria, the same author, speaking of Sozoiodole-Sodium, says:

"By means of insufflations much can be attained: (1) The vital powers of the child are not taxed to any significant degree, for the insufflation lasts but a few seconds, and is only employed at intervals of four hours; (2) even though the powder is not applied directly to the infected locality, it mixes with the saliva, and, through the movements of chewing and swallowing, reaches the membranes, where it remains adherent for some time, is gradually dissolved, and, in fluid form, enters the deepest lacunæ of the tonsils, which it disinfects; (3) the whole oral cavity, where innumerable microbes reside, is likewise disinfected; (4) the manipulations are so simple that any one can carry them out with ease.

"For each insufflation, I use a long paper tube, which is burned immediately after use, to avoid any further infection. The powder is placed in one end of the tube, and, after the tongue has been depressed by aid of a spoon, is deposited in the throat by blowing through the opposite end.

"This much is certain: That all of my colleagues who employed this method of treatment attained results similar to my own; that it is the only simple and practical one, and that in the reduction of mortality it exceeds, by far, all other methods of treatment. The total mortality, including the most severe and far advanced cases, as well as those living under bad hygienic conditions, never rose above 8 to 10%; while in cases treated immediately after the appearance of the disease, it scarcely reached 2 to 3%. The *fetor ex ore* disappears entirely after 8 to 10 hours, and the membranes loosen and exfoliate within 24 to 48 hours, and leave a healed ulcer surface behind. Complete cure is established after the expiration of 3 to 4 days. As a rule, I continue the insufflations for 8 to 10 days beyond this period. For prophylactic purposes, I employ a two per cent. solution of Sodium-Sozoiodolate as a mouth-wash in adults, and, in children, troches of 0.3 Gm. of Sodium-Sozoiodolate several times a day. After recovery from the disease, paralytic phenomena occur only in those patients who manifested severe symptoms of intoxication when treatment was begun. To prevent the development of post-diphtheritic paralysis, at the very outset of the treatment I began the administration of extract of nux vomica, thrice daily, in doses appropriate to the age of the child. I have never observed relapses, nor have such been reported to me by others. I have never been able to detect any unfavorable action of the treatment upon the kidneys."

—"Dr. MORDTMANN, physician-in-chief of the German Hospital of Constantinople, assures me that for a long time he delayed employing antitoxin in diphtheria, because, since he began to treat diphtheria with Sozoiodole insufflations, it seemed to him to be superfluous. For scientific reasons, in a few cases he used the serum, accompanied by local treatment with Sodium-Sozoiodolate, and attributed the convalescence of the children more to the Sozoiodole than to the serum. In detailing my own experience and that of others with this method of treatment, my intention is simply to place in the hands of every colleague who lacks the necessary means of making a positive diagnosis of diphtheria, a method which, when employed in either pure diphtheria or mixed infections, excels in effectiveness all previously employed medicaments. It is harmless, convenient, and applicable by all.

In my opinion, diphtheria is not a disease which can be treated by one-sided methods; *i.e.*, by a specific. This view seems to have induced Saltmann to employ general and local treatment in addition to the serum. Therefore, it is desirable that those physicians who have fresh serum and every scientific means at their command, should employ antitoxin in combination with insufflations of Sodium-Sozoiodolate—a method of treatment which can only contribute to the benefit of humanity."

Prompt, Pleasant, and Never-failing.

Dr. BÖHM, of Ratibor, reports (*Prager med. Wochenschrift*, 1894, XIX, p. 264) that he has treated, within 4 months, 21 children, of 1 to 13 years of age, with insufflations of Sozoiodole-Sodium combined with sublimed sulphur, and that he lost only 1 of them (who was already near asphyxia). He is convinced that this substance is an excellent remedy in diphtheria. According to him it is established that: (1) the application of this remedy is relatively the most pleasant to the little patients and never fails owing to their resistance; (2) that the fever diminishes rapidly when promptly applied; (3) that the *fetor ex ore* speedily disappears; and (4) that the membranes loosen and exfoliate within 24 to 48 hours, the ulcerated surface healing completely.

In older children the Sozoiodole-Sodium is generally employed *pure*, in a finely powdered state.

Very Encouraging Results.

Dr. ARTHUR DRÄER, of Königsberg (*Nouv. Remèd.*, 1895, XI, p. 213), has had recourse to Sozoiodole-Sodium in several cases of diphtheria, with very encouraging results. He used it as an insufflation, four times a day, either pure in powder form, or (for children under 5 years of age) mixed with an equal quantity of flowers of sulphur.

The membranes began to soften within twenty-four hours after the first administration of the drug, and upon their expulsion the exposed surfaces were seen to be completely healed over.

Sozoiodole-Sodium is nontoxic and entirely harmless; a 2% solution quickly kills the Löffler bacillus, says the author.

Not 1 Death in 53 Genuine Cases.

Dr. HEINRICH WILLERDING, of Steinhude (Schaumberg-Lippe), writes to Mr. Trommsdorff, Dec. 9, 1892, that he has employed Sozoiodole in an epidemic of diphtheria occurring during the winter of 1890–91, following exactly the directions of Dr. S. Schwarz, and enjoying the most happy results. Of 53 cases of genuine diphtheria not 1 died. In a neighboring place, one hour from Steinhude, where the same disease was raging, about 30 children died. The attending physician prescribed inhalations and swabbings with lime-water! At that time, had Dr. W. expressed himself upon this point, he believes he would have been suspected of "blowing his own horn"; but since reading the paper of Dr. Schwarz, he thinks differently.

Amazingly Prompt in Action.

Dr. LÜDECKE, of Remscheid, reports that he has employed Sozoiodole-Sodium, combined with flowers of sulphur, in 3 cases of diphtheria, and is much pleased with its action. These three cases occurred in the same family; one was of mild form, one of moderate severity, and the third of severe degree. In the last-mentioned case, the thick membranous deposits upon the whole pharynx were cleared away in an amazingly short time.

The author promises to make further tests with it, as every winter, almost the whole year through, he has many, and often very severe, cases of diphtheria which resist all older forms of treatment.

SOZOIODOLE IN SKIN DISEASES

Effective. Well Borne.

Prof. OSCAR LASSAR, of Berlin, reports (*Therap. Monatshefte*, Nov., 1887) from his private clinic for diseases of the skin as follows:

Stability in the presence of light and complete absence of odor are features distinguishing Sozoiodole from the majority of other iodine preparations, especially iodoform. A few experiments soon demonstrated that the remedy, when used in salve and powder form, is well borne by both healthy and ailing individuals. In 5 or 10% dusting-powder and in paste (with base of zinc-starch-vaselin or lanolin), Sozoiodole-Potassium soon brings the inflamed and irritated skin to mild and reactionless exfoliation. In *wounds*, fresh *eczemas* of all kinds, *herpes squamosus*, *herpes tonsurans*, *impetigo*, and *ulcers* it exerts a decidely beneficent influence. In superficial herpes tonsurans especially, a 10% paste is decidedly effective; and the same is true in all parasitic affections of the skin. In 5% Sozoiodole-Talcum bandages in *varicose ulcers* of the leg, 5 to 10% paste in *inflammatory conditions* of the skin and in *mycoses*, it has been of such value that in many respects it rivals the sovereign remedy salicylic acid. It possesses an advantage over the latter in that it can be used in a much more concentrated form without danger of exciting inflammatory reaction.

Powerful Parasiticide. Nontoxic.

Dr. CARL STERN (Inaugural Dissertation, Düsseldorf, 1889), discussing the antiparasitic action of Sozoiodole-Mercury, says that this salt in 2½% solution kills the *itch* mite in 24 minutes. When it is considered that a 1% solution of sublimate—a strength which cannot be employed without creating pronounced toxic effects—produces the same result in 15 minutes, and that a 5% solution of carbolic acid—likewise a concentration which can scarcely be recommended—requires 18 minutes, it must be admitted that the antiparasitic action of Sozoiodole is equal, if not superior, to that of the most commonly employed parasiticides. Indeed, in weak concentration, its rapidity of action far excels the majority of these.

Excellent in Eczema, Burns, and Ulcerations.

Dr. OSCAR SCHULTZE, of Berlin, writes, under date of Feb. 19, 1889, that the therapeutic effects obtained in his polyclinic with the Sozoiodole salts have led to the most satisfactory results. He has had extraordinary success with both Sozoiodole-Zinc and Sozoiodole-Sodium. He confirms the excellent effects of the Sozoiodole-Zinc in powder form (10%), and of Sozoiodole-Sodium as paste (with zinc, starch, vaselin)—the former in moist, the latter in dry, forms of *eczema*, as well as in superficial *cutaneous ulcerations* and *burns*.

SOZOIODOLE IN WHOOPING-COUGH

Promptly Efficacious.—No After-effects.

Dr. G. BJÖRKMAN, of Racine, Wis. (*Amer. Med.-Surg. Bull.*, 1893, VI, p. 1061), reports his experience with the Sozoiodole preparations in eight cases of whooping-cough. In one case (a child four years old), the whooping-cough, of 14 days' standing, disappeared in five days, and showed no subsequent symptoms.

He says: "The process is very simple. First, thoroughly clean the inside of the nose, and then insufflate 0.4 to 0.6 Gm. (6 to 10 grn.) of Sozoiodole-Sodium, half into each nostril, once or twice a day. The insufflation often produces sneezing or coughing spells; it may then be repeated sooner. This trouble may be prevented by using a combination of zinc stearate and Sozoiodole, which, even in ozena, may be of high value."

—Dr. PAUL GUTTMANN, of the City Hospital, Moabit (Berlin), states (*Therap. Monatshefte*, 1893, No. 1) that he has employed Sozoiodole-Sodium by nasal insufflation in 30 cases of whooping-cough in children. After previous cleansing of the nose, about 3 grn. (0.2 Gm.) of the drug were deeply insufflated into each nostril. A favorable influence of the treatment could not be denied in a number of cases.

Sozoiodole Formulary

General Directions

In general, before employing the Sozoiodole preparations, it is advisable to thoroughly cleanse the affected parts, when they are accessible, by washing with warm water and soap, or by irrigation with lukewarm water.

When the salts are to be used pure, or in trituration, it is absolutely necessary to reduce them to the finest possible powder; otherwise the minute, pointed, crystalline fragments may give rise to undesirable irritation.

In the preparation of aqueous solutions, care should be taken to heat the *water only*, and then dissolve the salt in it by stirring. Long-continued or too violent heating of the salt may cause the latter to decompose, with liberation of iodine. Watery solutions should not be kept for any considerable length of time, especially if exposed to light, since decomposition readily could take place. For this reason, when dispensing, brown or blue glass bottles should be used.

Abscess, Deep-seated.—See also Bubo.

1.—Sozoiodole-Mercury	1 part
Glycerin	8 parts
Powdered Acacia	4 parts
Distilled Water	88 parts

Inject 15 to 30 minims every 3 or 4 days! [Witthauer.]

Acne.

2.—Sozoiodole-Potassium	1 part
Lanolin	9 parts

Embrocation!

["Wittelshöfer-Kalender," Vienna, 1895.]

Adenitis, Ulcerative.

3.—Sozoiodole-Potassium	¼ oz.

Dust on the parts! [Koch.]

Angina Catarrhalis.

4.—Sozoiodole-Sodium	2 to 3 parts
Distilled Water	To make 100 parts

Gargle! [Schwarz.]

Angina Diphtheritica.

In children up to 3 years:

5.—Sozoiodole-Sodium, fine powd	1 part
Flowers Sulphur	2 parts

Insufflate the oral and nasal cavities every 4 hours by means of a freshly prepared paper tube. If possible, deposit the medicament directly upon the affected parts!

In children up to 5 years:

6.—Sozoiodole-Sodium, fine powd., Flowers Sulphur	Equal parts

Insufflate the cavities of the throat and nose every 4 hours by means of a freshly prepared paper tube. If possible, deposit the medicament directly upon the affected parts!

In older children and adults:

7.—Sozoiodole-Sodium, fine powd	¼ oz.

Insufflate the cavities of the throat and nose every 4 hours by means of a freshly prepared paper tube. If possible, the powder should be blown directly upon the affected parts! [Schwarz; Boehm; Willerding; Lüdecke; Bresgen; Dräer.]

Angina Tonsillaris.

8.—Powdered Sozoiodole-Sodium Flowers Sulphur	Equal parts

For insufflation, in children! [Schwarz.]

Antrophores, Sozoiodole.— See Sozoiodole Antrophores.

Aphthæ.—See also Stomatitis Parasitica.

9.—Sozoiodole-Sodium	1 part
Distilled Water	9 parts

Paint! [Schwarz.]

Arthritis Fungosa.

10.—Sozoiodole-Mercury	1 part
Glycerin	8 parts
Powdered Acacia	4 parts
Distilled Water	88 parts

Inject 15 to 30 minims every 3 or 4 days! [Witthauer.]

Barber's Itch.

11.—Sozoiodole-Sodium	1 part
Vaselin	1 part
Lanolin	8 parts

Ointment! [Lassar.]

12.—Sozoiodole-Mercury	1 part
Talcum	To make 100 parts

Dusting-powder! [Ostermayer.]

Bedsores.—See Decubitus.

Bladder Affections.

13.—Sozoiodole-Sodium	1 part
Distilled Water	100 parts

For irrigating the bladder! [Schwimmer.]

14.—Sozoiodole-Zinc	1 part
Distilled Water	200 parts

For washing-out the bladder! [Glässner.]

Blennorrhœa Neonatorum (Ophthalmia Neonatorum).

15.—Sozoiodole-Sodium	1 part
Distilled Water	15 parts

Instill into the eye! [Nitschmann.]

Blennorrhœa Urethræ.—See Gonorrhœa.

Blennorrhœa Vaginæ.—See Fluor Albus, and Vaginitis.

Bruises.—See Wounds, Contused.

Bubo, Open.

16.—Sozoiodole-Potassium	2 parts
Talcum	5 parts

Dusting-powder! [Schwarz.]

17.—Sozoiodole-Potassium	4 parts
Vaselin	1 part
Lanolin	9 parts

Ointment! [Schwarz.]

18.—Sozoiodole-Potassium	1 to 2 parts
Lycopodium	To make 10 parts

Dusting-powder! [Schwimmer.]

19.—Sozoiodole-Sodium	1 to 2 parts
Lycopodium	To make 10 parts

Dusting-powder! [Schwimmer.]

Burns.—See Combustiones.

Cancrum Oris.—See Stomacace.

Caries.

20.—Sozoiodole-Mercury	1 part
Glycerin	8 parts
Powdered Acacia	4 parts
Distilled Water	88 parts

Inject 15 to 30 minims every 3 or 4 days, after previous use of cocaine! [Witthauer.]

Catarrh, Retronasal.—See also Rhinitis.

21.—Sozoiodole-Potassium	1 to 2 parts
Talcum	2 parts

For insufflation! [Herzog.]

21a.—Solut. Sozoiodole-Zinc 2%.

Spray! [Stetter.]

Cauterization Wounds.

22.—Sozoiodole-Potassium	1 part
Talcum	9 parts

Dusting-powder!

[Elischer; Ostermayer; Fritsche.]

23.—Sozoiodole-Potassium	1 part
Milk-sugar	9 parts

Dusting-powder! [Elischer; Ostermayer.]

24.—Sozoiodole-Potassium	1 part
Vaselin	1 part
Lanolin	8 parts

Ointment! [Elischer; Ostermayer.]

Cervical Catarrh.—See also Endometritis.

25.—Sozoiodole-Sodium, fine powder, or Sozoiodole-Potassium, fine powder	¼ oz.

To be blown directly upon the parts! Cover with a dry cotton tampon. [Nitschmann.]

Chafing.—See also Excoriations.

26.—Sozoiodole-Potassium	1 part
Talcum	9 parts

Dusting-powder! [Schwarz.]

27.—Sozoiodole-Potassium	1 part
Vaselin	1 part
Lanolin	8 parts

Salve! [Schwarz.]

Chancre, Urethral.—See also Ulcus Molle, and Ulcus Durum.

28.—Sozoiodole-Potassium	1 part
Distilled Water	1 part
Glycerin Jelly	8 parts

Make into Bougies! [Matschke.]

29.—Sozoiodole-Sodium	1 part
Distilled Water	1 part
Glycerin Jelly	8 parts

Make into Bougies! [Matschke.]

Chronic Obstructive Rhinitis.—See also Rhinitis.

30.—Sozoiodole-Zinc.................... 7 parts
Menthol.................... 1 part
Milk-sugar.................... To make 100 parts
Snuff! When possible, the nasal mucous membrane is first to be cocainized. [SUCHANNEK.]

Collodion, Sozoiodole.—See Formula No. 71.

Combustiones (Burns).

31.—Sozoiodole-Potassium.................... 1 part
Talcum.................... 9 parts
Dusting-powder! [ELISCHER; PLESCOFF; NITSCHMANN; COHN; OSTERMAYER.]

32.—Sozoiodole-Potassium.................... 1 part
Milk-sugar.................... 9 parts
Dusting-powder! [PLESCOFF; ELISCHER; NITSCHMANN; COHN; OSTERMAYER.]

33.—Sozoiodole-Potassium.................... 1 part
Vaselin.................... 1 part
Lanolin.................... 8 parts
Salve! [SCHWIMMER; ELISCHER; COHN; NITSCHMANN; OSTERMAYER; PLESCOFF.]

34.—Sozoiodole-Potassium.................... 1 to 2 parts
Lycopodium.................... To make 10 parts
Dusting-powder! [SCHWIMMER.]

35.—Sozoiodole-Sodium.................... 1 to 2 parts
Lycopodium.................... To make 10 parts
Dusting-powder! [SCHWIMMER.]

36.—Sozoiodole-Sodium, fine powder,
or
Sozoiodole-Potassium, fine powder.................... ½ oz.
Apply after removal of shreds of skin! [LOSSEN.]

37.—Sozoiodole-Sodium.................... 1 part
Talcum.................... 9 parts
Dust on after removal of shreds of skin! [SCHULTZE; WITTHAUER.]

38.—Sozoiodole-Sodium.................... 4 parts
Zinc Oxide.................... 9 parts
Wheat Starch.................... 9 parts
Vaselin.................... 18 parts
Apply after removal of shreds of skin! [SCHULTZE; WITTHAUER.]

39.—Sozoiodole-Zinc.................... 1 part
Vaselin.................... 2 parts
Lanolin.................... 17 parts
Apply after removal of shreds of skin! [THOMAN; ALBERT.]

Condylomata.

40.—Sozoiodole-Mercury.................... 1 to 2 parts
Wheat Starch.................... To make 20 parts
Dusting-powder! [SCHWIMMER.]

41.—Sozoiodole Mercury.................... 1 part
Vaselin.................... 19 parts
Ointment! [SCHWIMMER.]

Conjunctivitis Acuta.

42.—Sozoiodole-Sodium.................... 1 part
Distilled Water.................... 15 parts
Instill into the eye! [NITSCHMANN; COHN.]

Conjunctivitis Blennorrhagica.

43.—Sozoiodole-Sodium.................... 1 part
Distilled Water.................... 14 parts
Apply to the conjunctiva! [NITSCHMANN.]

Conjunctivitis Catarrhalis.

44.—Sozoiodole-Sodium.................... 1 part
Distilled Water.................... 24 parts
Instill 1 drop in the eye 3 times a day! [NITSCHMANN; COHN.]

Conjunctivitis Purulenta.

45.—Sozoiodole-Sodium.................... 1 part
Distilled Water.................... 15 parts
Instill into the eye! [NITSCHMANN; COHN.]

Coryza.—See also Rhinitis.

46.—Sozoiodole-Zinc.................... 7 parts
Menthol.................... 1 part
Milk-sugar.................... To make 100 parts
Snuff!—If possible, the nasal mucous membrane should be previously cocainized. [SUCHANNEK.]

47.—Sozoiodole-Sodium, fine powder.................... ¼ oz.
Insufflate after careful cocainization of the mucous membrane. In copious watery secretion use pure Sozoiodole-Potassium in fine powder! [BRESGEN.]

47a.—Sozoiodole-Potassium.................... 1 part
Talcum.................... 10 parts
Insufflate every 1 or 2 hours! [STETTER.]

Cystitis.—See Bladder Affections.

Decubitus (Bedsores).

48.—Sozoiodole-Potassium.................... 1 part
Talcum.................... 9 parts
Dusting-powder! [TROMMSDORFF.]

49.—Sozoiodole-Potassium.................... 1 part
Vaselin.................... 1 part
Lanolin.................... 8 parts
Salve! [TROMMSDORFF.]

Dentistry.

a.—PULP EXPOSED BY EXCAVATION.

50.—Sozoiodole-Sodium, fine powder.................... 1 part
Sozoiodole-Potassium, fine powder.................... 2 parts
Glycerin.................... To make a paste
[REISERT; DUNN; HARTMANN.]

b.—MOUTH-WASH.

51.—Sozoiodole-Sodium.................... 1 part
Distilled Water.................... 50 parts
[REISERT; DUNN; HARTMANN.]

c.—PERIOSTITIS.—See Periostitis.

d.—STOMACACE.—See Stomacace.

e.—ROOT-FILLING MATERIAL FOR DEAD TEETH.

52.—Sozoiodole-Sodium, fine powder.................... 1 part
Sozoiodole-Potassium, fine powder.................... 2 parts
Glycerin.................... To make paste
[REISERT; DUNN; HARTMANN.]

f.—TOOTH-POWDER.

53.—Sozoiodole-Sodium, fine powder.................... 1 part
Chalk.................... 49 parts
[REISERT; DUNN; HARTMANN.]

Diphtheria.—See Angina Diphtheritica.

Diphtheritic Ulcer.—See Ulcus Diphtherium.

Dressing, Permanent.

54.—Sozoiodole-Potassium.................... 1 part
Milk-sugar or Talcum.................... 9 parts
Dusting-powder! [THOMAN; ALBERT.]

Ear, Suppuration of.—See also Otitis, and Myringitis.

55.—Sozoiodole-Zinc.................... 1 part
Talcum.................... 49 parts
For insufflation! [KRAUSE.]

Eczema.

56.—Sozoiodole-Potassium.................... 1 part
Talcum.................... 9 parts
Dusting-powder! [LASSAR.]

57.—Sozoiodole-Potassium.................... 1 part
Vaselin.................... 1 part
Lanolin.................... 8 parts
Salve! [LASSAR.]

58.—Sozoiodole-Zinc.................... 1 part
Vaselin.................... 2 parts
Lanolin.................... 17 parts
Ointment! [THOMAN; ALBERT; GAUDIN.]

59.—Sozoiodole-Mercury.................... 1 part
Vaselin.................... 5 parts
Lanolin.................... 44 parts
Ointment! [HERZOG.]

60.—Sozoiodole-Mercury.................... 1 part
Talcum.................... 99 parts
Dusting-powder! [WITTHAUER.]

61.—Sozoiodole-Zinc.................... 1 part
Talcum.................... 9 parts
Dusting-powder! [WITTHAUER; FRIEDLÄNDER.]

Eczema Humidum.

62.—Sozoiodole-Zinc.................... 1 to 2 parts
Diachylon Ointment (Hebra).................... 50 parts
Salve! [SCHWARZ.]

63.—Sozoiodole-Zinc.................... 1 part
Talcum.................... 9 parts
Dusting-powder! [SCHULTZE.]

Eczema Narium.

64.—Sozoiodole-Mercury.................... 1 part
Vaselin.................... 5 parts
Lanolin.................... 44 parts
Introduce into the nose on cotton! [TEICHMANN.]

65.—Sozoiodole-Potassium.................... 2 to 5 parts
Talcum.................... To make 10 parts
Insufflate into the nose! [STERN.]

Eczema Siccum.

66.—Sozoiodole-Sodium.................... 4 parts
Wheat Starch.................... 18 parts
Zinc Oxide.................... 18 parts
Dusting-powder! [SCHULTZE.]

67.—Sozoiodole-Sodium.................... 4 parts
Zinc Oxide.................... 9 parts
Wheat Starch.................... 9 parts
Vaselin.................... 18 parts
Paste! [SCHULTZE.]

Endometritis.

68.—Sozoiodole-Zinc .... 7 parts
Distilled Water .... 93 parts
Inject into the uterus, and after a short interval soak up! The solution must be injected luke-warm, otherwise crystals will be deposited.
[NITSCHMANN.]

Erysipelas.

69.—Sozoiodole Potassium .... 1 part
Talcum .... 3 parts
Dusting-powder! [WAGNER.]

70.—Sozoiodole-Potassium .... 3 parts
Vaselin .... 1 part
Lanolin .... 8 parts
Salve! [WAGNER.]

71.—Sozoiodole-Zinc .... 1 part
Ether .... 1 part
Collodion .... 2 parts
Sozoiodole-collodion! (In facial erysipelas.)
[GAUDIN.]

Erythema.—See Chafing, and Excoriations.

Exanthemata.

72.—Sozoiodole-Potassium .... 1 part
Vaselin .... 1 part
Lanolin .... 8 parts
Salve! [SCHWIMMER.]

73.—Sozoiodole-Sodium .... 1 to 2 parts
Lycopodium .... To make 10 parts
Dusting-powder! [SCHWIMMER.]

74.—Sozoiodole-Potassium .... 1 to 2 parts
Lycopodium .... To make 10 parts
Dusting-powder! [SCHWIMMER.]

75.—Sozoiodole-Mercury .... 2 parts
Triturate with sufficiency of water.
Add:
Potassium Iodide .... 4 parts
Now add:
Distilled Water .... To make 25 parts
Filter! For subcutaneous injection!
Once a week inject 1 Cc. (16 min.) into the gluteal region, changing from right to left side, or *vice versa*, as case may be. Five or six minutes previous to injection 1 Cc. of a 4 or 5% solution of cocaine hydrochlorate should be injected into the point where the medicament is to be introduced. [SCHWIMMER.]

Exanthema of the mucous membranes, E. maculosa, E. papulosa, E. maculo-papulosa, E. papulosa with mucous patches, and E. maculo-papulosa with mucous patches,—use the same subcutaneous solution as given above. [SCHWIMMER; JANOVSKY; ENDLITZ.]

Excoriations.

76.—Sozoiodole-Mercury .... 1 part
Lanolin .... 49 parts
Salve! [HERZOG.]

Excoriations of Nostrils.

77.—Sozoiodole-Mercury .... 1 part
Lanolin .... 49 parts
Anoint the parts! [HERZOG.]

Excoriations in Little Children.

78.—Sozoiodole-Potassium .... 1 part
Talcum .... 9 parts
Dusting powder! [GLÄSSNER.]

79.—Sozoiodole-Potassium .... 1 part
Vaselin .... 1 part
Lanolin .... 8 parts
Salve! [GLÄSSNER.]

80.—Sozoiodole-Sodium .... 1 part
Talcum .... 9 parts
Dusting-powder! [GLÄSSNER.]

Fissured Nipples.—See also Rhagades.

81.—Sozoiodole-Potassium .... 1 part
Vaselin .... 1 part
Lanolin .... 8 parts
Salve! [VOSSEN.]

82.—Sozoiodole-Potassium .... 1 part
Cold Cream .... 9 parts
[VOSSEN.]

Fistula (also Tuberculous).

83.—Sozoiodole-Mercury .... 1 part
Glycerin .... 8 parts
Powdered Acacia .... 4 parts
Distilled Water .... 88 parts
Inject 15 to 30 min. every 3 or 4 days.
[WITTHAUER.]

Fluor Albus.—See also Endometritis.

84.—Sozoiodole-Zinc .... 1 part
Distilled Water .... 49 parts
For impregnation of vaginal tampons.
[TROMMSDORFF.]

Frost-bite.

85.—Sozoiodole-Potassium .... 1 part
Talcum .... 4 parts
Dusting-powder! [TROMMSDORFF.]

Frost-bite.—*Continued.*

86.—Sozoiodole-Potassium .... 2 parts
Vaselin .... 1 part
Lanolin .... 7 parts
Ointment! [TROMMSDORFF.]

87.—Sozoiodole-Zinc .... 1 to 2 parts
Vaselin .... 2 parts
Lanolin .... To make 20 parts
Ointment! [THOMAN; ALBERT.]

Gingivitis.

88.—Sozoiodole-Sodium .... 1 part
Distilled Water .... 49 parts
Mouth-wash! [TROMMSDORFF.]

Gonorrhœa Acuta.

89.—Sozoiodole-Zinc .... 1 to 2 parts
Distilled Water .... To make 100 parts
Inject 3 or 4 times a day. If the result desired is not obtained within a short time, change to:

90.—Sozoiodole-Sodium .... 1 part
Distilled Water .... 24 parts
Injection! [SCHWIMMER; TARNOWSKY; NEISSER; NITSCHMANN; MEYER; SCHWARZ; GAUDIN; AUMER; KOCH; MIHOCINOVIC.]

Gonorrhœa Chronica.

91.—Sozoiodole-Zinc .... 1 part
Distilled Water .... 50 parts
Sydenham's Laudanum .... 1 part
Injection! [SCHWARZ.]

92.—Sozoiodole-Zinc .... 1 to 2 parts
Tincture Opium .... 2 parts
Distilled Water .... To make 100 parts
Injection! [SCHWIMMER.]

93.—Sozoiodole-Zinc .... 1 to 2 parts
Bismuth Salicylate .... 1 to 2 parts
Distilled Water .... To make 100 parts
Injection! [SCHWIMMER.]

94.—Sozoiodole Antrophores, Sozoiodole Bougies, etc.—See under S.

Hemorrhoids.

95.—Sozoiodole-Sodium .... 30 gr. (2 Gm.)
Cacao Butter .... To make 10 suppositories
Externally! [SCHWARZ.]

96.—Sozoiodole-Potassium .... 30 gr. (2 Gm.)
Cacao Butter .... To make 10 suppositories
Externally! [TROMMSDORFF.]

Herpes Squamosus.

97.—Sozoiodole-Potassium .... 1 part
Talcum .... 9 parts
Dusting-powder! [LASSAR.]

98.—Sozoiodole-Potassium .... 1 part
Vaselin .... 1 part
Lanolin .... 8 parts
Salve! [LASSAR.]

Herpes Tonsurans.

99.—Sozoiodole-Mercury .... 1 part
Vaselin .... 10 parts
Lanolin .... 89 parts
Ointment! [KOCH.]

100.—Sozoiodole-Potassium .... 1 part
Vaselin .... 1 part
Lanolin .... 8 parts
Salve! [LASSAR.]

101.—Sozoiodole-Potassium .... 1 part
Talcum .... 9 parts
Dusting-powder! [LASSAR.]

Impetigo.

102.—Sozoiodole-Potassium .... 1 part
Talcum .... 9 parts
Dusting-powder! [LASSAR.]

103.—Sozoiodole-Potassium .... 1 part
Vaselin .... 1 part
Lanolin .... 8 parts
Salve! [LASSAR.]

104.—Sozoiodole-Zinc .... 1 part
Vaselin .... 1 part
Lanolin .... 8 parts
Ointment! [GAUDIN.]

Impetigo Syphilitica.

105.—Sozoiodole-Mercury .... 2 parts
Triturate with:
Distilled Water .... Sufficient
Add:
Potassium Iodide .... 4 parts
Triturate thoroughly, then add:
Distilled Water .... To make 25 parts
Mix and filter.—For subcutaneous injection! Once a week inject 1Cc. (16 min.) into the gluteal region, changing from left to right side, or *vice versa*, as occasion may require. Five or six minutes before injection, inject 1Cc. of a 4 or 5 per cent. solution of cocaine hydrochlorate into the point receiving the medicament.
[SCHWIMMER; JANOVSKY; ENDLITZ.]

Keratitis.

105a.—Sozoiodole-Sodium......... 0.25 gme. (3¾ grn.)
Atropine Sulphate........ 0.05 gme. (¾ grn.)
Vaselin......... ....10. gme. (2½ drs.)
Ointment! Place between the lids. [Goldzieher.]

Laryngitis Acuta et Chronica.

106.—Sozoiodole-Sodium, fine powder
Flowers Sulphur.... .... Equal parts
To be blown upon the affected parts every 4 hours
[Fritsche; Reidlin.]

106a.—Sozoiodole-Zinc .... 1 part
Talcum......... ....10 parts
[Stetter.]

106b.—Sol. Sozoiodole-Zinc....... ....1-2 : 100
[Stetter.]

Laryngitis Sicca.

107.—Sozoiodole-Zinc...................... 7 to 20 parts
Talcum........................ To make 100 parts
Insufflation!
[Schmidt; Fritsche; Riedlin; Suchannek.]

Laryngitis Tuberculosa.

108.—Sozoiodole-Sodium .... 1 to 2 parts
Milk-sugar or Talcum .... 2 parts
Insufflation! [Herzog; Schwarz.]

109.—Sozoiodole-Zinc .... 1 part
Milk-sugar or Talcum.................. 99 parts
Insufflation! [Stetter; Schwarz.]

110.—Sozoiodole-Zinc...................... 7 to 20 parts
Milk-sugar or Talcum......... To make 100 parts
Insufflation! [Schmidt; Schwarz.]

Leucorrhœa. — See Cervical Catarrh, and Endometritis.

Lupus and Tuberculosis (Nasal, Laryngeal, and Pharyngeal).

111.—Sozoiodole-Sodium, fine powder............⅛ oz.
Insufflation! [Bresgen.]

Metritis Chronica.

112.—Sozoiodole-Sodium, fine powder, or
Sozoiodole-Potassium, fine powder.........⅛ oz.
Insufflation! Follow with cotton tampon.
[Gaudin.]

Mycosis.

113.—Sozoiodole-Potassium.................... 1 part
Vaselin.. 1 part
Lanolin. .... 8 parts
Salve! [Lassar.]

Myringitis.

114.—Sozoiodole-Zinc. .... 1 part
Distilled Water..........................49 parts
Instill into the eye! [Stetter.]

Myringitis Chronica Sicca (Sclerosis Myringis).

115.—Sozoiodolic Acid........................ 1 part
Glycerin.................... .... 20 parts
Distilled Water........................ 20 parts
Olive Oil.............................. 40 parts
Instill into the ear. Shake well before using!
or:

115a.—Sol. Sozoiodole-Zinc.. ....2 : 100
Instill into the ear!
or:

115b.—Sozoiodole-Zinc....................... 1 part
Talcum........................... ..10 parts
[Stetter.]

Operations.

116.—Sozoiodole-Potassium.................... 1 part
Talcum......................... ..... 9 parts
Dusting-powder! [Fritsche; Nitschmann; Hopmann; Thoman; Albert; Schwarz; Matschke.]

117.—Sozoiodole-Potassium.................... 1 part
Milk Sugar........... .... 9 parts
Dusting-powder! [Fritsche. Nitschmann; Hopmann; Schwarz; Thoman; Albert; Matschke.]

118.—Sozoiodole-Potassium.................... 1 part
Vaselin................. .. .. 1 part
Lanolin .... 8 parts
Salve! [Fritsche; Nitschmann; Hopmann; Schwarz; Thoman; Albert; Matschke.]

119.—Sozoiodole Cotton, Sozoiodole Gauze, etc.—See under 8.

After-treatment in Operations on the nose and throat:

120.—Sozoiodole-Potassium, fine powder....... ¼ oz.
Insufflate pure. [Teichmann.]

Ophthalmia Neonatorum.—See Blennorrhœa Neonatorum.

Osteomyelitis.

121.—Sozoiodole-Mercury........................ 1 part
Glycerin........... .... 8 parts
Powdered Acacia.......................... 4 parts
Distilled Water............................ 88 parts
Inject 15 to 30 min. (1 to 2 Cc.) every 3 or 4 days!
[Witthauer.]

Otitis Interna Chronica.

122.—Sozoiodole-Zinc.......................... 1 part
Talcum.................................. .. 9 parts
Insufflation! [Riedlin; Schmaltz.]

Otitis Media Chronica.

123.—Sozoiodole Zinc.......................... 1 part
Talcum. . ... 9 parts
Insufflation! [Friedländer.]

Otitis Media Purulenta.

124.—Sozoiodole-Sodium...................... 1 part
Distilled Water.......................... 49 parts
For irrigation! Follow by insufflation of pure Sozoiodole-potassium. [Grazzi.]

125.—Sozoiodole-Zinc.......................... 1 part
Talcum.................................... 9 parts
Insufflation! [Krause.]

126.—Sozoiodole-Zinc .... 1 to 2 parts
Boric Acid .. .. To make 10 parts
Insufflation! [Aumer.]

126a.—Sozoiodole-Zinc....... .... 1 part
Talcum ... .10 parts
Insufflation! [Stetter; Funke.]

126b.—Sol. Sozoiodole-Zinc.....................2 : 100
Instill into the ear! [Stetter; Funke; Salinger.]

Otitis Purulenta.

127.—Sozoiodole-Zinc.......................... 1 part
Talcum .... 99 parts
Insufflation! [Stetter.]

Otorrhœa.

128.—Sozoiodole-Sodium...................... 1 part
Distilled Water.. .... 50 parts
Irrigation! Follow by insufflation of pure Sozoiodole-potassium. [Grazzi.]

129.—Sozoiodole-Zinc................. ...... 1 part
Talcum.................................. 49 parts
Insufflation! [Glässner.]

130.—Sozoiodole-Zinc .... 1 part
Talcum.................................... 9 parts
Insufflation! [Friedländer].

Ozena.

131.—Sozoiodole-Zinc...................... 7 to 20 parts
Talcum...................... To make 100 parts
Insufflation! [Kuhn; Schmidt; Herzog; Fritsche; Suchannek.]

132.—Sozoiodole-Zinc.......................... 1 part
Talcum .... 9 parts
Insufflation! [Krause; Salinger.]

133.—Sozoiodole-Sodium.................. .... 1 part
Powdered Cubebs. ....19 parts
or

134.—Sozoiodole-Zinc.......................... 1 part
Powdered Cubebs............... ....19 parts
Insufflation! [Schwarz.]

135.—Sozoiodole-Mercury................. 1 to 5 parts
Talcum..... .... To make 50 parts
Insufflation! [Fritsche; Stetter.]

136.—Sozoiodole-Mercury............... 1 to 5 parts
Vaselin......... .... 5 parts
Lanolin............... .... To make 50 parts
Apply in the nostrils by repeated introduction of cotton tampons. Follow by irrigation with a lukewarm ½ to 1% solution of Sozoiodole-zinc.
[Friedländer.]

137.—Sozoiodole-Zinc..................... 7 to 10 parts
Talcum .... To make 100 parts
Insufflation! After disappearance of the odor, and when the secretion has become lessened, insufflate Sozoiodole-sodium, in fine powder. [Bresgen.]

Parasites in the Nasal Cavity.

138.—After removal of the parasite by mechanical means, insufflate with finely powdered Sozoiodole-sodium. [Bresgen.]

Periostitis.

139.—Sozoiodole-Sodium, or
Sozoiodole-Zinc ... . ¼ oz.
Apply to the affected part by means of the moistened finger-tip. During the night apply by means of pledgets of cotton! [Buckeisen; Reisert.]

Permanent Dressing.—See Dressing.

Pertussis.

140.—Sozoiodole-Sodium, fine powder........... ¼ oz.
For deep nasal and pharyngeal insufflations every 4 hours ! [GUTTMANN.]

141.—Sozoiodole-Sodium, fine powder.......... 5 parts
Flowers Sulphur.................... 2 parts
Insufflate the nose and throat every 4 hours ! [TROMMSDORFF.]

141a.—Sozoiodole-Sodium ....0.40-0.60 gme. (6-10 grn.)
First, thoroughly cleanse the inside of the nose, then insufflate, half in each nostril, once or twice a day. [G. BJÖRKMAN.]

Pharyngitis Acuta.

142.—Sozoiodole-Zinc........................ 1 part
Distilled Water.......................... 19 parts
Paint the parts every 2 hours. If painful, irrigate with pure water ! [COHN ; NITSCHMANN ; SUCHANNEK.]

Pharyngitis Chronica.

143.—Sozoiodole-Zinc...................... 7 to 20 parts
Talcum........................ To make 100 parts
Insufflation ! [SCHMIDT.]

144.—Sozoiodole-Sodium, fine powder......... 3 parts
Milk-sugar................................ 10 parts
Insufflation !
["Wittelshöfer-Kalender," Vienna, 1895.]

Phimosis, after Circumcision.

145.—Sozoiodole-Potassium .... ¼ oz.
Dusting-powder ! [KOCH.]

Polypi, Aural.

146.—Sozoiodole-Mercury........................ ¼ oz.
Insufflate in small quantities, and after ⅙ hour remove by syringing. Until the next treatment instill with :

147.—Sozoiodole-Zinc .... 1 part
Distilled Water.......................... 49 parts
Instillation ! [KLAMMANN.]

After-treatment to avoid recurrence:

148.—Sozoiodole-Potassium, fine powder........ ¼ oz.
For insufflation ! [TEICHMANN.]

Pruritus.

149.—Sozoiodole-Zinc.................... 1 to 2 parts
Distilled Water.......To make 20 parts
Paint !—The solution is to be gently heated ; otherwise crystals will separate. [NITSCHMANN.]

150.—Sozoiodole-Zinc .... 1 part
Wheat Starch.............................. 25 parts
Dusting-powder !
["Wittelshöfer-Kalender," Vienna, 1895.]

Psoriasis.

151.—Sozoiodole-Mercury .... 1 part
Vaselin.................................... 4 parts
Lanolin .... 45 parts
Inunction !
["Wittelshöfer-Kalender," Vienna, 1895.]

Retronasal Catarrh.—See Catarrh, and Rhinitis.

Rhagades (Fissures).

152.—Sozoiodole-Mercury .... 1 part
Vaselin..................................... 5 parts
Lanolin .... 44 parts
Salve ! [HERZOG.]

Rhinitis Atrophica.

153.—Sozoiodole-Zinc..................... 7 to 20 parts
Milk-sugar..................... To make 100 parts
[FRITSCHE.]

and :

154.—Sozoiodole-Sodium .... 1 part
Milk-sugar .... 9 parts
The strength may be increased until pure Sozoiodole-sodium is used.
Insufflate daily, alternating. [FRITSCHE.]

155.—Sozoiodole-Zinc.................... 7 to 20 parts
Milk-sugar..................... To make 100 parts
For insufflation !
[SEIFFERT; SUCHANNEK ; STERN.]

Rhinitis Atrophica Fœtida (Ozena, which also see).

156.—Sozoiodole-Zinc...................... 1 to 2 parts
Vaselin...................................... 8 parts
Lanolin .... 8 parts
Liquid Paraffin......... To make a soft ointment
[FLATAU.]

Rhinitis Chronica, with abundant secretion.

157.—Sozoiodole-Potassium................... 1 to 2 parts
Milk-sugar.................................. 2 parts
[SEIFFERT : BOEHM : GOETZ ; PAROW ; JOHN; BRESGEN; SCHMIDT; TEICHMANN; SUCHANNEK.]
or :

158.—Sozoiodole-Sodium, fine powder...... 1 to 2 parts
Milk-sugar .... 2 parts
For insufflation or as snuff ! [SEIFFERT : BOEHM : GOETZ : PAROW ; SUCHANNEK ; SCHMIDT ; JOHN ; BRESGEN ; TEICHMANN.]

159.—Sozoiodole-Sodium.......................... 1 part
Powdered Cubebs.........................19 parts
Insufflation ! [SCHWARZ.]

160.—Sozoiodole-Sodium.......................... 1 part
Talcum. .... 9 parts
For insufflation ! [STEINMEYER.]

161.—Sozoiodole-Sodium, fine powder........... ¼ oz.
Insufflate every 2 or 3 days ; if indicated, cauterize. [BRESGEN.]

Rhinitis Chronica, with slight secretion.

162.—Sozoiodole-Zinc...................... 7 to 20 parts
Milk-sugar.................... To make 100 parts
Snuff ! [KUHN; SCHMIDT : SEIFFERT ; BOEHM ; TEICHMANN ; GOETZ ; HERZOG.]

163.—Sozoiodole-Zinc .... 1 part
Powdered Cubebs .... 19 parts
Snuff ! [SCHWARZ.]

Rhinitis Chronica Muco-Purulenta.

164.—Sozoiodole-Potassium........................ 1 part
Talcum...................................... 2 parts
For insufflation ! [SUCHANNEK ; TEICHMANN.]

Rhinitis Chronica Purulenta.

165.—Sozoiodole-Potassium .... 1 part
Talcum...................................... 2 parts
Insufflation ! [SUCHANNEK ; TEICHMANN.]

Rhinitis Fibrinosa vel Pseudo-membranosa.

166.—Sozoiodole-Zinc, fine powder.............. ¼ oz.
or :

167.—Sozoiodole-Potassium, fine powder......... ¼ oz.
For insufflation. [TEICHMANN.]

Rhinitis Hyperplastica.

168.—Sozoiodole-Zinc .... 7 to 20 parts
Milk-sugar............... To make 100 parts
For insufflation ! [SEIFFERT ; TEICHMANN.]

Rhinitis Hypertrophica.

169.—Sozoiodole-Zinc..................... 7 to 20 parts
Milk-sugar.................... To make 100 parts
and :

170.—Sozoiodole-Sodium.......................... 1 part
Milk-sugar .... 90 parts
Insufflate in alternation with former. Increase the strength, if necessary, even to *pure* Sozoiodole-sodium. [FRITSCHE: SUCHANNEK: STERN; TEICHMANN; RIEDLIN.]

171.—Sozoiodole-Zinc.............................. 1 part
Talcum .... 99 parts
For insufflation ! [STETTER.]

171a.—Sozoiodole-Zinc .... 1 part
Talcum....................................10 parts
Insufflation ! [STETTER.]

171b.—Sozoiodole-Zinc .... 1 part
Talcum...................................... 1 part
Insufflation ! [SALINGER.]

Rhinitis Scrofulosa.

172.—Sozoiodole-Zinc..................... 7 to 20 parts
Talcum.................... To make 100 parts
For insufflation ! [SUCHANNEK ; RIEDLIN.]

Rhino-Pharyngitis, with tenacious secretion.

173.—Sozoiodole-Zinc..................... 7 to 20 parts
Talcum .... To make 100 parts
For insufflation !
[KUHN ; SCHMIDT ; STERN ; FRITSCHE.]

Rhino-Pharyngitis, with liquid secretion.

174.—Sozoiodole-Sodium............................ 1 part
Talcum....................... To make 10 parts
For insufflation !
[KUHN ; STERN ; SCHMIDT ; FRITSCHE.]

Rhino-Pharyngitis Catarrhalis.

175.—Sozoiodole-Zinc.............................. 1 part
Distilled Water .... 10 parts
Glycerin .... 10 parts
Paint ! [SCHWIMMER.]

Scrofulous Disease of the Scalp.

176.—Sozoiodole-Mercury	1 part
Lanolin	90 parts
Olive Oil	10 parts

Ointment ! [Witthauer.]

Sclerosis.

177.—Sozoiodole-Mercury	1 part
Vaselin	10 parts
Lanolin	89 parts

Innuction ! [Koch.]

Sclerosis Myringis.—See Myringitis Chronica Sicca.

Sozoiodole Antrophores.

178.—Sozoiodole-Zinc, sufficient to make antrophores of the strength of 2%.

179.—Sozoiodole-Sodium, sufficient to make antrophores of the strength of 5%.

Sozoiodole Bougies.

180.—Sozoiodole-Zinc, sufficient to make, with glycerin jelly, bougies of the strength of 2%.

181.—Sozoiodole-Sodium, sufficient to make, with glycerin jelly, bougies of the strength of 5%.

Sozoiodole Collodion.—See Formula No. 71.

Sozoiodole Cotton, 10%.

182.—Sozoiodole-Sodium	1 part
Distilled Water	17 parts
Cotton	10 parts

Sozoiodole Dusting-powder for Wounds.

183.—Sozoiodole-Potassium	1 part
Talcum	9 parts

184.—Sozoiodole-Potassium	1 part
Milk-sugar	9 parts

Sozoiodole Gauze, 10%.

185.—Sozoiodole-Sodium	2 parts
Distilled Water	28 parts
Gauze	20 parts

Sozoiodole Healing-salve.

186.—Sozoiodole-Potassium	1 part
Vaselin	1 part
Lanolin	8 parts

Sozoiodole Snuff.

a.—In acute and chronic coryza accompanied by slight secretion:

187.—Sozoiodole-Zinc	7 parts
Menthol	1 part
Milk-sugar	92 parts

If possible, the nasal mucous membrane is first to be cocainized! [Kuhn; Schmidt; Schwarz; Herzog; Suchannek; Seiffert; Boehm; Goetz.]

b.—In acute and chronic coryza with copious secretion:

188.—Sozoiodole-Sodium	5 parts
Milk-sugar	100 parts
Menthol	1 part

Snuff ! [Seiffert; Boehm, Goetz; Parow; Suchannek; Schmidt; John; Bresgen, Schwarz; Steinmeyer.]

Sozoiodole Suppositories.

189.—Sozoiodole-Potassium	1 part
Cacao Butter	14 parts

Make suppositories weighing 45 grn. each.

Stomacace.

190.—Sozoiodole-Sodium	3 to 4 parts
Distilled Water	To make 50 parts

Mouth-wash ! [Reisert.]

Stomatitis.—See also Aphthæ.

191.—Sozoiodole-Zinc	1 part
Distilled Water	19 parts

Paint the parts every 2 hours, and if painful, wash out with pure water. [Nitschmann.]

192.—Sozoiodole-Sodium	1 part
Distilled Water	15 parts

Paint !

193.—Sozoiodole-Sodium	1 part
Distilled Water	49 parts

Mouth-wash !

Stomatitis Parasitica.—See also Aphthæ.

194.—Sozoiodole-Sodium	1 part
Rose Honey	10 parts

Paint ! [Schwarz.]

195.—Sozoiodole-Sodium	20 parts
Milk-sugar	100 parts
Saccharin	1 part

Dusting powder ! [Schwarz.]

Suppositories, Sozoiodole.—See Sozoiodole Suppositories.

Sycosis.

196.—Sozoiodole-Mercury	1 part
Lanolin	99 parts

Spread on linen to the thickness of the back of a knife, and apply over night.
["Wittelshöfer-Kalender," Vienna, 1895.]

Syphilis.

197.—Sozoiodole-Mercury	2 parts
Triturate with:	
Distilled Water	A sufficiency
Add:	
Potassium Iodide	4 parts
Triturate thoroughly, then add:	
Distilled Water	To make 25 parts

Filter. For subcutaneous injection !

Inject 1 Cc. (16 min.) into the gluteal region once a week, changing from right to left side, or *vice versa*, as occasion may demand. Five or six minutes before, inject into the parts 1 Cc. of a 4 to 5% solution of cocaine hydrochlorate. [Schwimmer; Janovsky; Tarnowski; Endlitz; Mihocinovic; Matschke.]

198.—Sozoiodole-Mercury	15 grn. (1 Gm.)
Tincture Opium	3 min. (0.2 Gm.)
Extract Gentian	To make 30 pills

One pill noon and night ! [Schwimmer; Schwarz.]

Syphilis, Nasal and Laryngeal.

199.—Sozoiodole-Mercury	1 to 10 parts
Talcum	To make 100 parts

For insufflation !
[Fritsche; Stern; Schmaltz; Stetter.]

200.—Sozoiodole-Zinc	7 to 20 parts
Talcum	To make 100 parts

For insufflation ! [Stern.]

201.—Sozoiodole-Mercury	2 parts
Triturate with:	
Distilled Water	A sufficiency
Add:	
Potassium Iodide	4 parts
Triturate well, then add:	
Distilled Water	To make 25 parts

Filter. For subcutaneous injection !

Inject 1 Cc. (16 min.) into the gluteal region once a week, changing from right to left side, or *vice versa*, as occasion requires. Five to six minutes before, inject into the parts 1 Cc. of a 4 to 5% solution of cocaine hydrochlorate. [Schwimmer.]

202.—Sozoiodole Mercury	1 to 2 parts
Wheat Starch	To make 20 parts

For insufflation ! [Grazzi.]

Syphilitic Ulcer of Throat.

203.—Sozoiodole-Mercury	1 part
Sodium Chloride	1 part
Distilled Water	98 parts

Paint !
["Wittelshöfer-Kalender," Vienna, 1895.]

Thrush.—See Stomatitis Parasitica, and Aphthæ.

Tooth-powder.—See Formula No. 53.

Tooth-wash.—See Formula No. 51.

Tuberculous Wounds and Fistulas.—See Fistula.

Tussis Convulsiva.—See Pertussis.

Ulcers.

204.—Sozoiodole-Potassium	1 part
Talcum	9 parts

Dusting-powder ! [Lassar.]

205.—Sozoiodole-Potassium	1 part
Vaselin	1 part
Lanolin	8 parts

Salve ! [Schwimmer; Lassar.]

206.—Sozoiodole-Potassium, or Sozoiodole-Sodium	½ oz.

Dusting powder ! [Cohn.]

207.—Sozoiodole-Potassium	1 to 2 parts
Lycopodium	To make 10 parts

Dusting powder ! [Schwimmer.]

208.—Sozoiodole-Sodium	1 to 2 parts
Lycopodium	To make 10 parts

Dusting-powder ! [Schwimmer.]

209.—Sozoiodole-Sodium	2 parts
Wheat Starch	9 parts
Zinc Oxide	9 parts

Dusting-powder ! [Schultze.]

Ulcers.—*Continued.*

210.—Sozoiodole-Sodium.... 4 parts
Zinc Oxide.... 9 parts
Wheat Starch.... 9 parts
Vaselin.... 18 parts
Paste! [Schultze.]

211.—Sozoiodole-Potassium.... 1 part
Talcum.... 9 parts
Dusting-powder!—Increase strength to pure Sozoiodole-potassium, if necessary. [Rosinski.]

Ulcers, Indurated.

212.—Sozoiodole-Potassium.... 1 part
Vaselin.... 1 part
Lanolin.... 8 parts
Salve! [Schwarz.]

213.—Sozoiodole-Potassium.... 1 part
Talcum.... 9 parts
Dusting-powder! [Schwarz.]

Ulcer, Syphilitic.—See also Ulcus Durum.

214.—Sozoiodole-Potassium.... 1 part
Talcum.... 9 parts
Dusting-powder! [Hofmann; Schwarz.]

215.—Sozoiodole-Potassium.... 1 part
Milk-sugar.... 9 parts
Dusting-powder! [Hofmann.]

216.—Sozoiodole-Potassium.... 1 part
Vaselin.... 1 part
Lanolin.... 8 parts
Salve! [Hofmann; Schwarz.]

217.—Sozoiodole-Mercury.... 1 to 10 parts
Talcum.... To make 100 parts
Dusting-powder! [Seiffert.]

218.—Sozoiodole-Mercury.... 1 to 10 parts
Vaselin.... 10 parts
Lanolin.... To make 100 parts
Salve! [Seiffert.]

219.—Sozoiodole-Mercury.... 2 to 5 parts
Vaselin.... 10 parts
Lanolin.... To make 100 parts
Salve! [Albert; Thoman.]

220.—Sozoiodole-Mercury.... 1 part
Vaselin.... 10 parts
Lanolin.... 89 parts
Salve! [Koch.]

221.—Sozoiodole-Mercury.... 1 part
Vaselin.... 2 parts
Lanolin.... 17 parts
Salve! [Schwimmer.]

222.—Sozoiodole-Mercury.... 1 to 2 parts
Wheat Starch.... To make 20 parts
Dusting powder! [Schwimmer.]

223.—Sozoiodole-Mercury.... 1 to 10 parts
Sodium Chloride.... 1 to 10 parts
Distilled Water.... To make 100 parts
Apply to the affected parts by means of a brush or cotton swab. [Suchannek.]

224.—Sozoiodole-Potassium.... 2 to 5 parts
Talcum.... To make 20 parts
Dusting-powder! [Schwimmer.]

225.—Sozoiodole-Potassium.... 2 to 5 parts
Vaselin.... 2 parts
Lanolin.... To make 20 parts
Salve! [Schwimmer.]

226.—Sozoiodole-Potassium.... ½ oz.
Dusting-powder! [Koch.]

227.—Sozoiodole-Mercury.... 2 parts
Triturate with
Distilled Water.... A sufficiency
Add:
Potassium Iodide.... 4 parts
Triturate well, then add:
Distilled Water.... To make 25 parts
Filter! For subcutaneous injection.
Inject 1 Cc. (16 min.) once a week into the gluteal region, changing from right to left side, or *vice verso*, as case may be. Five to six minutes before, inject into the parts 1 Cc. of a 4 to 5% solution of cocaine hydrochlorate.
[Schwimmer; Janovsky; Endlitz; Matschke.]

Ulcers, Scrofulous.

228.—Sozoiodole-Potassium.... 1 part
Wheat Starch.... 9 parts
Dusting-powder! [Hofmann.]

229.—Sozoiodole-Potassium.... 1 part
Milk-sugar.... 9 parts
Dusting-powder! [Hofmann.]

230.—Sozoiodole-Potassium.... 1 part
Vaselin.... 1 part
Lanolin.... 8 parts
Salve! [Hofmann.]

Ulcers, Tuberculous.

231.—Sozoiodole-Mercury.... 2 to 5 parts
Vaselin.... 10 parts
Lanolin.... To make 100 parts
Salve! [Thoman; Albert.]

Ulcers, Tuberculous, of Nose and Throat.

232.—Sozoiodole-Potassium.... 1 part
Talcum.... 9 parts
For insufflation! [Hofmann.]

233.—Sozoiodole-Potassium.... 1 part
Milk-sugar.... 9 parts
For insufflation! [Hofmann.]

234.—Sozoiodole-Potassium.... 1 part
Vaselin.... 1 part
Lanolin.... 8 parts
Salve! [Hofmann.]

235.—Sozoiodole-Zinc.... 7 to 20 parts
Talcum.... To make 100 parts
For insufflation!
[Fritsche; Stern; Riedlin.]

236.—Sozoiodole Sodium....
Milk-sugar.... Equal parts
For insufflation! [Seiffert.]

237.—Sozoiodole-Sodium, fine powder....
Milk-sugar.... Equal parts
For insufflation, increased if necessary to pure Sozoiodole-sodium. [Suchannek.]

238.—Sozoiodole-Mercury.... 1 to 10 parts
Vaselin.... 10 parts
Lanolin.... To make 100 parts
Salve! [Seiffert; Stern.]

Ulcers, Varicose.

239.—Sozoiodole-Potassium.... 1 part
Talcum.... 9 parts
Dusting-powder! [Lassar.]

240.—Sozoiodole-Potassium.... 1 part
Vaselin.... 1 part
Lanolin.... 8 parts
Salve! [Lassar.]

241.—Sozoiodole-Sodium.... 1 part
Vaselin.... 1 part
Lanolin.... 8 parts
Salve! [Lassar.]

242.—Sozoiodole-Zinc.... 1 part
Vaselin.... 2 parts
Lanolin.... 17 parts
Salve! [Thoman; Albert.]

243.—Sozoiodole-Mercury.... 1 part
Vaselin.... 10 parts
Lanolin.... 89 parts
Salve for bandaging! Bandage may remain in position for 5 days. [Koch.]

244.—Sozoiodole-Sodium, fine powder.... ½ oz.
Dusting-powder! [Koch.]

Ulcus Cruris.

245.—Sozoiodole-Potassium.... 1 part
Talcum.... 8 parts
Dusting-powder! [Nitschmann.]

246.—Sozoiodole-Potassium.... 10 parts
Vaselin.... 3 parts
Lanolin.... 27 parts
Salve! [Nitschmann.]

247.—Sozoiodole-Sodium, fine powder,
Or:
Sozoiodole-Potassium, fine powder.... ½ oz.
Dusting-powder! [Koch.]

248.—Sozoiodole-Zinc.... 1 part
Vaselin.... 2 parts
Lanolin.... 17 parts
Salve! [Thoman; Albert.]

249.—Sozoiodole-Mercury.... 1 part
Lanolin.... 90 parts
Olive Oil.... 10 parts
Spread upon linen strip the width of the finger to the thickness of the back of a knife. Bandage with cotton, and firmly fasten with a cambric binder. Should the tendency to heal decline after a while, leave the leg uncovered and dust upon the wound the following:

250.—Sozoiodole-Mercury.... 1 part
Talcum.... 99 parts
[Witthauer; Friedländer.]

Ulcus Diphtherium.

251.—Sozoiodole-Sodium, fine powder,
Or:
Sozoiodole-Potassium, fine powder.... ½ oz.
Dusting-powder! [Koch.]

Ulcus Durum (Hard Chancre).

252.—Sozoiodole-Sodium, fine powder,
Or:
Sozoiodole-Potassium, fine powder.... ½ oz.
Dusting-powder! [Koch.]

253.—Yellow Wax.... 76 parts
Common Turpentine.... 10 parts
Mix together in a vapor-bath; when sufficiently cooled, mix with
Sozoiodole-Mercury.... 4 parts
Olive Oil.... 10 parts
Make plaster. Place upon the ulcer!
[Gaudin.]

Ulcus Molle (Soft Chancre).

254.—Sozoiodole-Sodium, fine powder........... ⅛ oz.
Dust under the edges of the ulcer !
[Trapesnikow ; Dräer ; Tarnowski.]

255.—Sozoiodole-Sodium, fine powder,
Or:
Sozoiodole-Potassium, fine powder......... ⅛ oz.
Dusting-powder ! [Matschke.]

256.—Sozoiodole-Mercury...................... 1 part
Vaselin................................ 10 parts
Lanolin......... .... 89 parts
Salve ! [Koch ; Mihocinovic.]

Urethritis Gonorrhoica.—See also Gonorrhœa.

257.—Sozoiodole-Zinc............. .... 1 to 2 parts
Distilled Water.. .... To make 100 parts
Inject 3 or 4 times daily. [Nitschmann.]
Should the desired effect not be obtained within a short period, alternate with the following :

258.—Sozoiodole-Sodium.... .... 1 part
Distilled Water......................... 24 parts
For injection ! [Nitschmann.]

Vaginismus.

259.—Sozoiodole-Zinc...................... 1 to 2 parts
Distilled Water................ To make 20 parts
Paint ! [Nitschmann.]

Vaginitis.

260.—Sozoiodole-Potassium.................... 1 part
Talcum.................. .... 9 parts
Dusting-powder ! [Nitschmann.]

261.—Sozoiodole-Sodium, fine powder.......... 1 part
Talcum.................................... 9 parts
Dusting-powder ! [Nitschmann.]

262.—Sozoiodole-Sodium, fine powder.......... 1 part
Lanolin.................. .... 9 parts
Ointment ! [Nitschmann.]

Varicose Ulcers.—See Ulcers, Varicose.

Venereal Warts.—See Condylomata.

Whites.—See Cervical Catarrh, and Endometritis.

Whooping-cough.—See Pertussis.

Wounds.

a.—CAUSTIC WOUNDS.

263.—Sozoiodole-Potassium...................... 1 part
Talcum................................... 9 parts
Dusting-powder ! [Elischer : Ostermayer.]

264.—Sozoiodole-Potassium...................... 1 part
Milk-sugar.............................. 9 parts
Dusting-powder ! [Elischer ; Ostermayer.]

265.—Sozoiodole-Potassium.................... 1 part
Vaselin........................ .... 1 part
Lanolin............................ ...... 8 parts
Salve ! [Elischer ; Ostermayer.]

b.—COMBUSTIONES.—See Burns.

c.—SUPPURATING WOUNDS.

266.—Sozoiodole-Potassium..................... 1 part
Talcum.......................... .... 9 parts
Increased, if desired, to pure Sozoiodole-potassium.
Dusting-powder ! [Rosinski ; Matschke.]

d.—CONTUSED WOUNDS.

267.—Sozoiodole-Potassium...................... 1 part
Talcum.................................. 9 parts
Dusting-powder ! [Nitschmann ; Glässner.]

268.—Sozoiodole-Potassium................... .. 1 part
Milk-sugar .... 9 parts
Dusting-powder ! [Nitschmann.]

269.—Sozoiodole-Potassium...................... 1 part
Vaselin.................................... 1 part
Lanolin.................................. 8 parts
Salve ! [Nitschmann ; Glässner.]

270.—Sozoiodole-Potassium, fine powder......... ⅛ oz.
Dusting-powder ! [Koch.]

271.—Sozoiodole-Sodium....................... 1 part
Talcum .... 9 parts
Dusting-powder ! [Glässner.]

272.—Sozoiodole-Zinc........................ 1 part
Distilled Water.......................... 49 parts
Saturate cotton, and apply. [Parow.]

e.—INCISED AND LACERATED WOUNDS.

273.—Sozoiodole-Potassium...................... 1 part
Talcum.................................. 9 parts
Dusting-powder ! [Nitschmann ; Glässner ; Mayer.]

Wounds.—*Continued.*

274.—Sozoiodole-Potassium..................... 1 part
Milk-sugar.............................. 9 parts
Dusting-powder ! [Nitschmann ; Mayer.]

275.—Sozoiodole-Potassium .... 1 part
Vaselin.......................... .... 1 part
Lanolin................................ 8 parts
Salve ! [Schwimmer ; Nitschmann ; Glässner ; Mayer.]

276.—Sozoiodole-Potassium................. 1 to 2 parts
Lycopodium.................... To make 10 parts
Dusting-powder ! [Schwimmer.]

277.—Sozoiodole-Sodium..................... 1 to 2 parts
Lycopodium.................... To make 10 parts
Dusting-powder ! [Schwimmer.]

278.—Sozoiodole-Potassium, fine powder........ ⅛ oz.
Dusting-powder ! [Koch.]

279.—Sozoiodole-Sodium.......................... 1 part
Talcum..................................... 9 parts
Dusting-powder ! [Glässner.]

f.—SEVERE INJURIES.

280.—Sozoiodole-Potassium..... .... 2 to 5 parts
Talcum........................ To make 20 parts
Dusting powder ! [Sölch.]

281.—Sozoiodole-Potassium...... .... 2 to 5 parts
Milk-sugar...................... To make 20 parts
Dusting-powder ! [Sölch.]

282.—Sozoiodole-Potassium.................. 2 to 5 parts
Vaselin..................................... 2 parts
Lanolin.... .... To make 20 parts
Salve ! [Sölch.]

g.—TUBERCULOUS WOUNDS.

(1.) *Cavernous Wounds.*

283.—Sozoiodole-Mercury .... 1 part
Glycerin................................... 8 parts
Powdered Acacia............................ 4 parts
Distilled Water.......................... 88 parts
Inject 15 to 30 min. every 3 or 4 days.
[Witthauer.]

(2.) *Accessible Wounds.*

284.—Sozoiodole-Mercury .... 1 part
Talcum.................................. 99 parts
Dusting-powder ! [Witthauer.]

285.—Sozoiodole Mercury .... 1 part
Lanolin .... 90 parts
Olive Oil............................... 10 parts
Inunction ! [Witthauer.]

286.—Sozoiodole Cotton.
Sozoiodole Gauze. [Mayer.]

Wound-salve.—See Sozoiodole Wound-salve.

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EDITORIAL

MEDICAL CHARITY

IT is a common result of mental strabismus among the masses for the giving of alms to be looked upon as charity. Indeed the words "charity" and "alms" have come to be considered by many as synonymous. That educated medical men should be unable to distinguish between them would seem almost improbable, and yet the trend of events seems to point in a way that shows that some of them are at least markedly confused in the matter. The bestowal of gratuitous service on the poor is merely a form of alms-giving, and may or may not be a charity. Indeed, it is at present a question of serious importance whether or not a large part of the free medical service at present bestowed upon the public is not a crime instead of a charity. Surely no system of ethics would ever claim that the production of a condition of degradation, and the consequent injury of the recipient of a so-called charity, could result from any act truly charitable. An act of charity must be an act of Christian love, and should never occur where it is seen to lead to consequences that are evil. Any act that ends in evil, where the evil can be foreseen, is a crime. To justify such an act on ethical grounds is impossible. Though a doctor gives all his time and service to the poor, if he has not charity it will, from an ethical standpoint, profit him nothing; he is not a good man, but a criminal. Charity is such because it wisely tempers justice, but when it seeks to supersede justice it ceases to be charity.

The feeling of independent manhood is the basis of a truly moral community. Take it away and morality perishes. If we look upon society as an organism, then this feeling is the source of all immunity against social disease. It is the enemy of every form of crime. Without it no society could exist for an hour. In proportion to its power, so is the moral strength and true worth of a community. Whatever weakens it, or seeks to undermine its power, is an enemy of humanity. The man who possesses this feeling in proper amount will on no account at any time accept of a gift from another that he does not at some time and in some way intend to return in like or equivalent. If in dire extremity he accepts of alms, it is with the mental determination that he will restore the same, either to the donor or to society, through some other sufferer. This feeling of nobility distinguishes the moral from the immoral, the good from the bad, the upright from the ignoble. It should be respected and strengthened wherever and whenever found. To do anything calculated to undermine or destroy it, is not simply wrong, but one of the worst possible wrongs that can be perpetrated against the race. Such acts strike at the very vitals of society and lay the foundation for a multitude of crimes. To make human beings come to believe that it is all right for them to accept favors without reciprocal service, is to infect them with the germs of beggary and criminality. Such pauperizing of the community is a most serious affair under any circumstances, but when it is done under the sweet name of charity it becomes a simple mockery. Just as in the French Revolution the worst of crimes were perpetrated under the blessed name of liberty, so in our own land is the community being daily and hourly degraded under the name of medical charity. Thousands come and go to our hospitals and dispensaries, receiving treatment and medicine, without a thought of who bear their burdens, or without caring to know. At first their consciences feel keenly the fact that they are degrading themselves. After a few visits this feeling departs, and the seed is sown that tells them that the world owes them a living and this is part of it. They must justify their conduct to their own consciences, and this is the only justification they can think of. The rich people, and the medical men who contribute to such thoughts, are sowing the wind in the field of Democracy, and sooner or later they are bound to reap the harvest in a whirlwind of discontent that is already taking form. Social evils, like human diseases, either kill the patient or work their own cure. When they accomplish the latter object they do so by a reaction that recoils on the original cause and sweeps it away.

Will our free dispensaries and hospitals learn from sad experience to arrest the evil they are perpetuating, or will they go on until they have made anarchists and paupers of the whole community and wrecked the nation?

THE JUSTIFICATION OF MEDICAL CHARITY

HOW can medical charity be dispensed in a way that will not pauperize its recipients, injure the community or rob medical men? There is but one way, and that lies in the direct path of equity. When the institutions that dispense such charity adopt their proper function and publish the fact broadcast to the world, it will be accomplished, and not before. Every applicant for treatment at these institutions must be taught that he is paying for all he gets by the service he is rendering to those who treat him and to the community by his presence there. He must go away feeling that he has been doing a good thing not only for himself, but for humanity. How can he feel this way if the service is a free gift? Easily enough. Let every hospital and dispensary be dedicated to the service of medical education and medical progress, and it is at once accomplished. Allow no one to enter except on the distinct understanding that he becomes an object lesson for students, a subject of practice for young graduates, or a means of conservative and skilled experimentation in the line of his disease for men of science. Whoever enters on these terms feels that he pays as he goes for all he gets. Practically, this is to a great extent the exact state of affairs at the present time, but the patient does not know it and pains are usually taken to keep him from knowing it. This is altogether wrong, and leads to the evils that medical men are at present complaining about. Rich or well-to-do people, that could afford to pay for home service, would not visit dispensaries or hospitals as they do if the fact was published that they are paying for the service they receive in the way here indicated. If they clearly understood that they had to expose their persons, when necessary, to the inspection of a class of students, that they could have treatment only from young graduates needing experience, or that in case they are put into the hands of experts, it is solely that they may be experimented upon to find the relative values of old remedies or the exact worth of new remedies or new operations, they will most assuredly disappear from all places where only such free service is offered. It is useless to rail against the evil in the way usually done. No reformation is possible by any artificial sifting of patients that can be adopted. Only this self-acting check can arrest it. When the dispensaries and hospitals through their reports, through the public press, and by placards hung upon their walls, tell the public that no service can be had from them of any other kind than that we name, then, and then only, will it be restricted to the worthy poor. Then, and then only, will those who receive such service go away without a sense of degradation or a feeling that they must justify their conduct by the belief that they are merely getting from the rich, money that has been stolen from former services rendered by themselves. Let the glory of such institutions be the discoveries they make and the statistics they can show, not of patients treated, but of young doctors that have had from them the necessary experience to fit them for proper service in the world without. Let there be a constant rotation in the medical and surgical staff, so that the great body of students graduating from year to year shall have a fair opportunity to acquire the skill they need. Let experienced medical men who wish to advance human knowledge in a way that will be safe to patients, be permitted to test remedies and try methods, under proper conservative restrictions, and let the discoveries made be published to the world.

If it is a good thing to help the worthy poor in their distress, it becomes doubly good when the cause of education is advanced and justice promoted. When young medical graduates go forth without experience, they are forced to gain that experience from patients that vainly believe they are getting skilled service. If such young men had an opportunity to acquire this needed skill on those unable to pay, instead of on those who do pay, it would be a much more equitable state of affairs. That they are compelled to become the often unconscious promoters of this condition of injustice is in a great measure due to the present method of managing medical charities. Every young graduate should have the opportunity to spend three or four years in a dispensary or hospital. After such experience he would be better equipped for his life work.

ADVERTISING BY MEDICAL MEN

It is wisely deemed an exceedingly irregular and quackish proceeding for a medical man to advertise. But there is advertising and advertising. Whoever resorts to the open, bold form is immediately and justly ruled out of the pale of decent medical society. Sound ethics stamps its seal of approval on this, because open advertising is wholly at variance with medical honesty and truthfulness. It leads directly to the basest forms of deception and chicanery. A scientific medical man would have absolutely no chance to live if he had to compete with quacks in the advertising field. Whenever a medical man resorts to open advertising he becomes by that act a foe, not of medical men, but of medical science itself, and an enemy of the human race.

Covert advertising, while not as dangerous a foe of science and of progress, is a much more formidable enemy of medical men. From a business standpoint the covert advertiser is the most unfair and dangerous enemy the doctor has. But few are aware of the extent of the damage done by him. He is wrecking the profession in every quarter of the civilized globe. He is lowering the rates of compensation for services rendered. He is bringing disgrace on himself and his fellow practitioners. His least dangerous proceeding is having himself interviewed by his friend, the reporter, who works up for him in fine style his latest cases, so that the public can learn of his prowess. A worse trick of his is the organizing of societies to pay him a small sum per head per annum for his services. In this way he takes the part of a shipwrecker who pitilessly destroys a noble ship that he may make a little out of the wreckage. But this is not the worst form in which he appears. In the guise of charity he plays a part that is even more despisable. He enters our hospitals and dispensaries, not to acquire knowledge or help the poor, but to build up a practice for himself. He fills a place that a man endowed with the true spirit of science and of charity would ennoble by work valuable to the race. He keeps out some young man needing experience. He treats the poor in a perfunctory manner, caring not whether they are better or worse for what he does, unless he sees in them a chance to aid his scheme to advertise. He clings year after year to his clinic, because he knows it pays. Yes, it pays him; but for every dollar that enters his pocket, ten dollars are taken from the pockets of his brother practitioners. His cards are always ready with his address to give to patients at the dispensary, and his fee is always insisted on when they are no longer able to attend the dispensary and need him at their houses. The better dressed and the better off they are, the better the service he gives them, for he sees in this a chance for his own advancement. For effect's sake he may occasionally send one of the well-to-do away; but, as a rule, he prefers to have just such patients at his clinic.

Why cannot the truthful, honest medical men who, with truly charitable spirit, do the work of these institutions, unmask the hypocrites? Why cannot some plan be adopted that will exclude them? They are probably but a small minority. Why cannot the managers watch with keener insight and select men who are willing to accept such positions because of their love for the work, instead of love for the dollars they get out of it? It is impossible to reform the abuses of medical charity until the positions in these institutions are all filled with men who are endowed with a love of their profession that is as strong, or stronger, than their love for self. Cannot some plan be adopted that would make advertising impossible? If it could, then no one would remain in these positions except those that possess true love in their hearts for the work or for the poor. Dispensary patients should never be permitted to know who treats them. Selfish men, in seeing no chance to advance their self-interests, would then abandon them at once. Men imbued with a love of science or the true spirit of charity, who are now largely excluded, would take their places. As now conducted, these institutions, though capable of grand and noble results, are bringing upon us conditions that are deplorable. They are impoverishing the medical profession and pauperizing the masses. They are laying a logical foundation for anarchists to build upon. They are hindering the progress of medical science. It is true that much is being done by them to promote medical science, but this is due to the fact that a multitude of good men work within their walls. We plead for those of the same type that are excluded by the selfish, and that, if present, would save these institutions from the inevitable disgrace that is sure, sooner or later, to come upon them unless a change occurs for the better. A single bad link weakens a whole chain, and a few selfish men ruin these useful charities. Medical men are awakening to the evil and will soon see its disgraceful cause. The public press is already complaining of the half-hearted or heartless service that the worthy poor often receive. The whole trouble is due to the advertising doctor, and to get rid of it they must get rid of him. Either stop his advertising or let all have an equal chance. Open up more and more free dispensaries. Build more free hospitals. Let every medical man in the land have an opportunity to show the world what he can do in such places. It is unfair to give such an advantage to the few and exclude the many. Let all become wreckers, and then all will go down together; or stop all wrecking, and save our noble profession from ruin.

AN APPALLING SITUATION

WITHOUT a self-regulating check on dispensary abuse it is bound to increase. No test by garment texture can separate the very poor from those able to pay. The well-to-do often come in rags, and the self-respecting poor, struggling to keep a situation, come fairly well dressed. As things are going, it is only a matter of time till most persons not possessing wealth will be drawn into the vortex. Even now the evil is so great that the majority of young medical men have no possible way of getting into practice but through dispensary work. The patients that under normal conditions would be willing to engage them, now get treatment free and when they do pay for a call the dispensary doctor gets it. The sole alternatives left them are starvation, suicide, quackery, some other business, or covert advertising. What wonder that a large multitude of graduates disappear from professional life within a few years of graduation? What wonder that there are vastly more suicides among medical men than in any other profession? As there are scores of applicants for every dispensary vacancy, what wonder that there are unseemly scrambles for such places? What wonder that the situation debases many of them into sycophants and wire-pullers? Such a struggle leads to degeneracy by favoring the survival of the mean. Such as gain the places often seek to live above the temptations of their environment by trying to do their whole duty to those they treat; but it is impossible. But a very small number are there primarily as missionaries of science. The majority are there to build up a practice. They see and know that they are being cheated out of their rights in having to do so in this manner, but they only dare to protest in a half-hearted way. Looking around them, they discover that janitors, butchers, bakers, grocers, nurses, managers, clerks, pharmacists, porters, messengers—all are paid for their services. None of them do obeisance to the lying fetish misnamed Charity. Doctors must work as wreckers of their own profession, and be satisfied with the fragments of the wreck. If it was true charity, no one would complain. If only the needy came, and under conditions that did not debase them, how glorious a mark of our civilization all this would be? It would inspire men to do their best. Their whole hearts would be in their work. Then we would see true deeds of charity for charity's sake. Oh, that one having authority would come and scourge out of these modern temples those that are there purely as money-changers! Would he not utter the same scathing words as Christ did under similar provocation?

AMONG THE EDITORS

THE FLY AS A GERM CARRIER

In 1866, Hoffman demonstrated the presence of tubercle bacilli in the bodies of flies captured in a room occupied by a consumptive. The droppings of the flies were full of bacilli, which were shown by experiment to be fully virulent.

Six years later, Mr. A. Coppen Jones, of Switzerland, proved by means of chromogenic (pigment-forming) bacteria that infection can be, and actually is, carried, not only in the bodies of the flies, but also by their feet. In one experiment cultures of the bacilli prodigiosus were mixed with tuberculous sputum. Flies which had been in contact with this mixture were permitted to walk across the surface of sterilized potatoes. In forty-eight hours numerous colonies of the bacillus prodigiosus were visible. From these results we may reasonably conclude that flies are a constant source of infection.—*Diet. and Hyg. Gaz.*

SUSPENSIO UTERI

It is claimed that one-half of the operations for the displacement of the uterus have been performed by one American surgeon. Fortunately, therefore, the operation has not become so popularized as to become of general adoption through the medical world. One man claims to have done a few short of one hundred operations and claims results to have been of the most satisfactory character. It is to be hoped that the claims of the men who practice this procedure, with all the associated facts as to conditions, will be carefully investigated before the adoption of the operation becomes epidemic in form, as is the tendency in too many of our surgical procedures.

It does not seem rational to fix the uterus to the abdominal wall by surgical means to accomplish the cure of a condition of itself far less dangerous than that produced by the operation. The statistics showing the number of pregnancies following this operation certainly do not recommend it. The dangerous complications of obstructed bowel and delayed and disturbed labor must greatly overbalance any possible good that can accrue from it. . . . Unfortunately, surgery has its fads, and the poor patient often must, and only too frequently does, pay for them.

Abdominal surgery has done too much to relieve suffering women and prolong lives, and has too strong and too legitimate a claim to the high place it holds in the profession and in the confidence of the unfortunates in every community not to have some limit observed in surgical experimentation, especially with men not competent, either through scientific study and research or experience, to judge of the wisdom of any procedure. All our surgical procedures should be brought under the strongest light that it is possible to bring to bear upon them. Each and every one should have the strongest fortification; in fact, be sustained by the strong logic of beneficial results.—*Med. and Surg. Rep.*

THE "FUROR SCRIBENDI"

Never, for a corresponding period, in the history of medicine, has there been such a flood of technical literature as the last decade has produced. . . .

Then the immense multitude of journal articles! A multitude that no man, except the editor of the *Index Medicus* can number. Nearly every city in this country boasts one or more medical journals, and the death of one seems to be the signal for two or three new ones to rise phenix-like from its ashes. It is not clear whether the *furor scribendi* is a cause or an effect of the multiplicity of medical journals. While most of the important work appears first in the journals, still there is such an immense amount of trash that the really valuable papers are often obscured.—*Med. News.*

MEDICAL TESTIMONIALS

Doubtless many have wondered by what means the advertisers of quack and proprietary medicines manage to get together the volumes of so-called testimonial letters which they so sedulously print and circulate. Recently Dr. Ransom, of Nottingham, England, shed some light upon this matter by suing the proprietors of an American nostrum for publishing, over his name, words which he had never given and had no idea of endorsing.

Commenting upon this, the *Medical Press and Circular* remarks: "To put into the mouth of so dignified a gentleman the words 'Hurrah for ——' was a singular indiscretion."

The result of the proceedings was, that the proprietors of the nostrum were obliged to admit unqualifiedly that Dr. Ransom had never written such a testimonial, or uttered the words attributed to him, though they alleged in extenuation that they themselves had been hoaxed by a postal card containing a statement that Dr. Ransom had, at some unknown time, remarked "*something to the effect*" of the words contained in the spurious testimonial.

We fully believe, with our trans-Atlantic contemporary, that the great majority of testimonials used to exploit patent and proprietary remedies are wholly spurious; and it is a matter of surprise to us that medical men, who are supposed to be among the most advanced in education and intelligence, will allow themselves to be hoodwinked by the specious greed of proprietors and agents, and moreover consent to act as catspaws to the most disreputable calling on earth, to the end of lining the pockets of shrewd sharpers, too dishonest to succeed in any legitimate effort, and too low in the grades of crime, and too cowardly, to take up the more reputable trade of highway robbery.—*Med. Age.*

RESTRICTING THE DISSEMINATION OF MEDICAL KNOWLEDGE

We have never been able to see what harm a journal could sustain by having its contents reproduced in abstract in other periodicals or in books, provided due credit was given, as would undoubtedly be the case with the *Year-Book.* Indeed, always with the same proviso, we like to see entire articles reprinted from our columns. We feel that it is a good thing for the *Journal,* for it not only calls readers' attention to it, but goes to show that the *Journal* would not be thus drawn upon if it did not contain matter thought to be worth reproducing, and the more a journal is quoted the more such matter it may be held to contain, and the likelier is a person who is not at the time a subscriber to it to become one.—*N. Y. Med. Jour.*

COPYRIGHTED MEDICAL LITERATURE

The letter of Dr. Gould in this issue opens a question which has justice on both sides and which would take much time to discuss. Physicians are so accustomed to giving away much of their professional as well as literary labor, that Dr. Gould is surprised that the owners of copyrighted literature should object to its being copied. It certainly could not harm the original work and would likely spread its reputation, but when medical journals and books are published by business men who have the very laudable desire of making money out of them, they can hardly be blamed for pursuing business methods.

There is a common courtesy among journals and books that allows quotations and abstractions in part, and it is doubtful if the publications of the Messrs. Wood ever objected to quotations in other journals from their journals, which are two of the few that are copyrighted. The *Maryland Medical Journal,* in common with many other similar publications, has too often seen its articles and editorials bodily appropriated without due credit. Dr. Gould has, perhaps, a fair reason to feel aggrieved, but business men who issue medical publications for pecuniary reward and not for glory can hardly be expected to be too liberal.—*Maryland Med. Jour.*

DIRTY THERMOMETERS

In an editorial in an esteemed contemporary the need of accuracy in clinical thermometers was especially dwelt on. The claim was urged that any error in the thermometer might be a source of danger. We are ready to concede this, but to our mind the lack of attention to aseptic conditions in using thermometers is the source of far more danger. We do not doubt for one instant that clinical thermometers have been the source of more than one contagion, and it is a surprising thing to us that more have not followed from the careless manner in which they are used. The great majority of the medical profession recognize the importance of extreme care in order to insure sterilization. Yet how few give any heed to the fact. The thermometer is placed in the mouth of this person and that, and in the great majority of cases no other precaution is taken than the mere careless wiping of the thermometer with a handkerchief—an article most likely to be full of germs—or a towel, or even the corner of a sheet. The thermometer is then carefully put away in a case holding a small amount of absorbent cotton to keep it from breaking, which latter is specially apt to preserve germs ready to be conveyed to the next unfortunate upon whom the thermometer may be used. In this day and age, when so much attention is being given to the subject of cleanliness, it seems strange that patients and even physicians should neglect the commoner precautions relating to it.—*Med. Standard.*

THE SURGERY OF INTESTINAL PERFORATIONS

There is nothing that is of greater interest to the surgical mind than the occasional possibility of actually saving a life that is bound to ebb away unless operative aid is at hand. In typhoid perforations we have a condition that is generally simply appalling, and the cases that recover are so rare that some authors have had a tendency to consider cases of alleged spontaneous recovery as having been instances of erroneous diagnosis. However this may be, spontaneous recovery is something that we can hardly hope for in any individual case, and whenever we feel certain that perforation has occurred it is probable that, without operative interference, the patient is doomed.

With the modern advance in intra-abdominal surgery nothing is more natural than that the thought of operation in such cases should present itself with increasing frequency, whenever the conditions that are favorable to the proper performance of the needed operation exist.

Dr. Joseph Price, of Philadelphia, in the *Medical and Surgical Reporter* for November 7, 1896, reports three instances of perforation due to typhoid fever in which he operated and in which recovery followed. . . .

In the discussion which followed the reading of Dr. Price's paper, and in which a number of prominent surgeons and physicians of Philadelphia participated, the consensus of opinion was strongly in favor of prompt operative intervention in cases of perforating typhoid ulcers. . . . Dr. J. B. Roberts remarked that no modern surgeon, educated in current methods, would hesitate to operate upon a case of perforation in typhoid fever, while Dr. C. Wilson, looking at the subject from a medical point of view, expressed himself equally emphatically as to the necessity of placing the case in the hands of the surgeon when symptoms of perforation presented themselves. In conclusion we would cite the significant suggestion made by Dr. Price in closing the discussion, that if there is no time to associate a surgeon, the physician should use a pocket knife, pulling out the gut and sticking a darning needle in it, then cleansing and draining. This statement in itself illustrates most graphically the urgent necessity of rapid and simple methods of treatment, if we would rescue the patient from a condition of extreme danger.—*Inter. Jour. of Surgery.*

CHARITY HOSPITAL RESIDENT SURGEONS

The objects of a public hospital are twofold: First, and foremost, the care and treatment of the indigent sick and wounded; second, the education of medical men—not only of students to make them doctors, but the doctors themselves in order that the public may have at its service a sufficient number of properly equipped physicians and surgeons.

This proposition being granted, it becomes evident that for this double purpose to be properly carried out, a system different from that which has up to now prevailed must be instituted. In other words, the appointment of hospital surgeons must be taken out of politics. A man must not be elected because he has a "pull," and must not be allowed to remain in office indefinitely, as long as he retains political influence and can control appointments on the Board of Administrators.

As long as the existing method continues, neither object is attained to the best degree. A surgeon depends for retention in office less upon his devotion to duty and the time and ability he gives the hospital and the destitute sick than upon the friends he makes outside, and the success he has in getting on the right side of the political fence. Hence, the indigent get less from him than they might, and, frequently, one individual remains in office for years chiefly for his own personal advantage, excluding other meritorious men from the opportunity of acquiring a fair amount of hospital experience.—*N. O. Med. and Surg. Jour.*

OUR DAILY BREAD

It is obvious that an article of so mixed a nature as yeast must introduce a variety of microbes into the bread. It is generally supposed that all danger from this source is avoided by the baking, which is assumed to sterilize the bread. Experiment shows, however, this is not always the case. Some investigations made in England not long ago proved that the interior portions of well-baked loaves contained living microbes. It is, indeed, now well known, that several species of bacteria have high resisting power to heat, withstanding even the action of water boiling at ordinary pressure, for several minutes. Spores, especially have high resistance. Fortunately most of these obstinate bacteria are not distinctly disease-producing.

It follows, therefore, that the process of baking bread cannot be implicitly relied upon to render bread sterile. We may dismiss the question of adventitious fungi in the yeast as being rather technical in interest, the danger of introducing disease-producing microbes being slight, but we cannot dismiss the consideration of the danger from infection by the unsanitary conditions and surroundings of bake-shops. Attention has already been called to this topic in several cities. It is a matter of common observation that the sights in the interior of bake-shops are not always appetizing, particularly during busy hours. The "sweat of the brow" is not infrequently directly incorporated into the bread. Basement bakeshops are very common and vermin must be abundant in them. It has been shown in certain trade agitations that journeymen bakers have hard work and not good pay, and such conditions tend to degrade the sanitary character of workmen.

Bread-making should be carried on by machinery in large establishments. By this means all contact with human hands may be avoided. Light and ventilation can be secured, and vermin may be reduced to a minimum. The raising of the dough can be brought about by the introduction of a pure carbon dioxide, or if this be deemed unsatisfactory, pure yeast cultures may be employed. Such establishments are largely subject to sanitary control without involving the inquisitorial feature that attaches to visits to private shops.—*Diet. and Hyg. Gaz.*

THE ANNUAL MEETING IN MONTREAL

The coming year will mark an epoch in the history of the British Medical Association. Originally provincial, it became after a few years British, and its rapid extension throughout the Colonies and the Dependencies of the British Empire, which has formed so important a part of its recent development, has coincided with the great movement towards a closer and more vital union between the mother country and her vigorous daughters in so many distant quarters of the world. The life of the British Medical Association is almost coetaneous with the reign of our gracious Sovereign, and it is by a happy if undesigned coincidence that a striking proof of the Imperial extension of its work should coincide with the celebration of the sixtieth year of Her Majesty's reign.

If the invitation which the association has received and accepted from Montreal has some Imperial significance as an evidence of the strengthening of the bonds of brotherhood which are drawing the young nations of Greater Britain into a closer, franker, and more generous union with the old country, it is not less gratifying to the members of the association in the United

Kingdom as affording a proof of the living interest felt in its welfare by our Colonial brethren, and their anxiety to extend its usefulness.

It is very meet and right that the Dominion of Canada should be the first colony to offer hospitality to the association. It boasts itself the premier colony. It is the nearest and most accessible, and it possesses many associations which render it specially dear to the people of Great Britain. Montreal, one of the oldest cities of the North American Continent, is also one of the most vigorous. It is the commercial metropolis of Canada; and from the illustrated article which we publish elsewhere, those who are not already acquainted with the facts will be convinced that if Montreal can boast a large commerce and much riches, her most successful sons have delighted to employ their wealth in presenting the city with educational and charitable institutions planned and endowed on the most generous scale. McGill University is one of the most important and best equipped in all departments on the American Continent, and it has vigorous rivals in the two other universities established in Montreal—Laval University and the University of Bishop's College.

By the efforts of religious and lay founders, Montreal has been equally well provided with hospitals, the latest addition to the list being the Royal Victoria Hospital, the gift of Lord Mount Stephen and Sir Donald Smith, who built it at a cost of more than £200,000 and have since endowed it with over £8,000 a year.—*Brit. Med. Jour.*

DISPENSARY ABUSE

Dr. Mansfield still pursues the topic of dispensary abuse and hospital mismanagement with untiring energy. He is probably cutting the ground from under his own feet and is acting in opposition to all men who have a hold on good dispensaries from which to recruit their office practice, but he is preaching the right kind of doctrine and the sooner the profession as a whole are able to see this the better. It will be hard to correct this great evil.—*Maryland Med. Jour.*

LEADING PAPERS

RECENT PROGRESS IN THE PREVENTION AND TREATMENT OF TUBERCULOSIS *

By R. H. HAYES, M. D.,
Member and Grand Senior Counsellor of the Alabama State Medical Association; member of the American Medical Association; Vice-President for Alabama of the Tri-State Medical Society of Alabama, Georgia, and Tennessee; member of the Bullock County Medical Society, and Chairman of the Bullock County Board of Examiners.

THE special limitation of my subject presumes upon our general knowledge of the disease in all its forms. My hope is to make my report largely statistically and clinically practical, in order to reach the general practitioner, and indirectly the people, who at all times are deeply concerned in this vitally important disease. I am constrained, however, to give all the essential facts connected with its infectious nature and descriptive of its specific cause—the "bacillus tuberculosis." It is necessary also to define what constitutes its past prevention and therapeusis on the one side, and that very progressive therapy, advanced during recent years, accepted by clinicians as its recent history and status.

Fortunately, the divisional lines are well marked by the brilliant discovery in 1881, by Koch, of its true cause, the "causa vera," in the specific germ, the "bacillus tuberculosis," and his no less brilliant discovery in 1890 of his specific, germicidal, curative remedy, "tuberculin." The pathological dictum of the past was purely a constitutional one; that for the recent present is directly germicidal and curative; termed also biologic or cellular.

Following after William Osler, it is "an infectious disease, caused by the 'bacillus tuberculosis,' the lesions of which are caused by nodular bodies called tubercles, or diffuse infiltrations of tuberculous tissue, which undergo caseation or schlerosis, and may finally ulcerate, and in some situations, calcify." Besides the absolute knowledge of its infectious nature, it had all along been considered as slightly contagious, whereas now it is classed as strongly contagious by various authorities, sanitary commissions, and public health bodies, and the victims, with premises, etc., are all now placed under strict sanitary regulations.

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* Read before the meeting of the Alabama State Medical Association, and a statistical abstract of same read before the Tri-State Medical Society of Alabama, Georgia, and Tennessee.

The disease is universal; no clime is free, and practically no race immune. All ages and conditions are susceptible; it is rare only among the higher cliffs of the Alps, Andes, Rockies, and the central plateaus of Mexico. The general maximum of the world's deaths attributable to tuberculosis is fixed at about one-seventh; the average ratio of deaths per 1000 of population at about 15 per centum; in crowded tenements, public institutions, prisons, etc., this ratio frequently ranges higher, sometimes reaching 40 and 50 per centum. Altitude is claimed to be a more potent factor in its production and prevalence than latitude. The picture of the past, representing its general treatment, is a dismal one—always discouraging in prospect and generally unsatisfactory in result; any special or timely benefit only proving temporary, the patient being bolstered up by the inherent cheerfulness of the disease, while only approaching nearer the fatal ending, almost sure to come at last as a positive, pathologic sequence.

Thus, with the nature of the disease, its true cause, and the character and powers of the germ discovered, studied and known, it was but a step forward from this pathology to that of the biologic or direct, and leading up to the research and discovery of the germicidal agent or agents possessing the power of arresting, controlling, and destroying the specific germ wherever found. This was accomplished by Koch in 1890 in his tuberculin, advanced and developed by Klebs, aided by Dr. von Ruck, of Asheville, N. C. A number of agents of similar germicidal powers were also discovered in other lines. Hunter, of England; Maragliano and Campagna, of Italy; Pacquin, of St. Louis, and others in this country, because of the success attained in the treatment of diphtheria with Roux's "antitoxin," attempted and developed from the blood serum of certain animals, mainly the horse, cow, ass, and goat—chiefly the horse—several serum products called "anti-tubercle" serums, all of importance, taking their separate names for distinction as discovered or introduced from the bacteriologist introducing them, each said to be capable of antagonizing, neutralizing, the germ within the system sufficiently to cause its arrest, degeneration, and destruction, thereby falling within the class of recent remedies considered direct and germicidal. Victor Vaughn also developed from the blood its cellular pabulum or protoplasm, and from the lymphoid tissues of certain animals, and also from the yeast of certain plants, an antagonistic agent of like germicidal powers called nuclein; while from the field of pure medicine, Walstein, of New York, first, and Dr. Cyrus Edson later, and very recently, claim to have discovered direct germicidal and curative powers for pilocarpine and phenol. I have made these agents as named the general lines or indices for my report, interluding the clinical uses of the well-known rational aids and adjuncts of honest therapeutics, with allusions to the theories and researches leading up to the discovery or development of each one.

In the résumé of the older agents used in the treatment of tuberculosis, cod-liver oil merits consideration first. It enjoyed all along the unbounded confidence of the profession, was a basis of almost all methods of treatment, and was given in every case, usually as a general nutritive agent of value, supplying tissue waste in the more chronic forms. This was due to the fact that it was the only oil adapted to and entering into the molecular basic formation of chyle, itself so necessary to intestinal digestion. It is unnecessary to give further details, all of which, together with its administration, combinations, and drawbacks, are all universally known. It gave way somewhat, and at last to the newer and more esthetic hypophosphite syrups. It had no specific germicidal effects, and did not directly influence the tubercular processes in any way. Creosote was another of the older remedies, the pure beechwood creosote being generally used. It occupied second place, perhaps, to none of the orthodox remedies. It was used as a disinfectant of the system and of local areas by continuous small doses, and by aid of hypodermic syringe or spray. A preparation of creosote-carbonate has been furnished the profession said to be more palatable and more efficacious. Of 93 cases treated with creosote, Bartholow gives 25 apparent cures. William Pepper claimed success with it in the direct antiseptic method of treatment for tuberculosis, which he so strongly advocated. My own experience with the two remedies is limited to its application in country practice, and is doubtless similar in results to that of every country practitioner, that is as generally unavailing. Guiacol, a somewhat similar remedy, was of frequent use in the past, and has within the last few years been strenuously revived. Its administration was to begin usually with from 1 to 3 grn., increasing to 18 and 45 grn., after meals. Fowsitski treated eighteen cases with marked benefit in all—in one case especially the bacilli disappeared. This author, also Dr. Karl von Ruck and others, state that it is not at all specific, nor is creosote. Nobilli, however, states that it both strengthens the organism, and destroys directly or by some process of emasculation the bacilli. He had treated twenty cases, with good effects in all. The introduction and sway of the hypophosphite syrups within the last two decades is no doubt fresh upon your minds. They were more esthetic and palatable and more or less efficient as general tonics and restorative systemic builders, but in no way actually specific or directly curative. Osler dismisses them by the statement that "none of these medicinal agents, of any character whatever, possess any special or peculiar action upon tubercular processes, and are simply good all-round tonics and systemic builders." Under this dictum will perhaps fall all of the older tonics and systemic builders which at one time or another have occupied place in the therapeusis of the disease. Strychnin, iron, arsenic, and many other remedies of like nature and action, have been brought to bear, therapeutically used, upon different theories with varying and generally unsatisfactory results. Some of them may have deserved more favorable judgment, and may have exerted perhaps in one way or another some directly antagonistic, though occult, effect upon the germ itself. No such claim, however, has been made for them, and I find no special array of statistical cures charged up to their account. By their use, continuously persisted in, with the conjoint use of some one or more of the rational aids and adjunctive measures, apparent cures have been effected. All such apparent cures were generally ascribed to the excitation of the phagocytic action of the leucocytes, whose special office it is to attack and arrest the progress of alien germs introduced, from whatever source, into the blood. On this ground some of them are used now, and are as applicable to one period of time as the other. There are other special medicinal agents belonging to the past therapy of this disease which I cannot, for want of time and space, include in this outline, and there are others of the past and some of these mentioned that are still adhered to by the general profession. Von Ruck, Klebs, Ambler, Barbour, Dennison, Taylor, and others still use these remedies—one or more of them—and also the rational aids alluded to, while treating tuberculosis, even with "antiphthisin," the best of the direct germicidal remedies. The direct antiseptic method of treating the disease has perhaps not had its dues, consisting of daily injections directly into diseased areas of lung, by means of a long hypodermic needle, of the well-known antiseptics—mercury, iodin, carbolic acid, and iodoform—generally using three per cent. solutions in almond oil. It was rational as far as it went, but impracticable in general practice, and was not accepted by the profession. It was, as stated, strongly advocated by William Pepper, who claims some cures therefor. The treatment of the disease by hypodermic injections of iodin and preparations of gold instituted several years ago and known as the Shirly Gibbs treatment, while strongly advocated as efficacious, has virtually been rejected by the profession as impracticable, though perhaps scientific and rational. The treatment of Bergeon, consisting of rectal injections of carbonic acid gas, enough to saturate the blood and purify infected areas, originated about twelve or fifteen years ago, and for which he claimed cures.

The treatment by oxygen inhalation was one of considerable virtue, but was not widely adopted because of a want of practical knowledge on the part of the general practitioner. These inhalations tend to ozonize the blood, and, with the pneumatic cabinet, constitute a part of the general lines of management used by specialists. They constitute therapeutic aids of value to any well-directed plan of management or line of medical treatment, and are a part of the past therapeutic history of the disease, which was of only a limited value to the profession, not then having been fully developed, so that their more scientific, rational, and efficacious use belongs more to the present, or its recent history. All the specialists with whom I have conferred freely advocate their use in conjuction with any plan of treatment, all of them realizing with Tizzoni that statistics carefully collated from the autopsy rooms have proven that during life numerous tubercular lesions have cicatrized and become inert.

Hydro-therapy also deserves a modicum of praise and concession of recognized virtues in this résumé of older methods; while massage, electricity, and intelligent physical exercise, coupled with certain lung gymnastics, held prominent place and position in its past varied and voluminous hygienic, prophylactic, and therapeutic indications. I give them only passing mention, for none of them, and indeed but few, if any of the chief medicinal agents of that period, possessed absolute germicidal property. While this is true generally of all the older remedies, used often without discrimination or distinction, the converse is true of the newer agents. Besides direct germicidal effect claimed, they are all said to be capable of preventing, checking, and controlling the coagulating and necrotic processes going on in the vitalized cell pabulum under the influence of the bacilli, or under that of other infective germs, thereby allowing the restoration of the cells to the normal.

The systematic researches of Robert Koch resulted in the discovery of "tuberculin" in 1890, which he stated would cause the destruction and disappearance of the bacillus, even destroy it not by direct attack, but by an emasculation or walling off process, while Prof. Klebs and Dr. Karl von Ruck also have improved upon tuberculin in a newer remedy called "tuberculocidin," and also introduced another product called "antiphthisin" — the latter directly germicidal in action and free from toxic properties. These were brought out in 1891 and 1892, and *pari passu* with these researches other scarcely less brilliant results were developed in the field of serotherapy and that of pure medicine. Tuberculin is a glycerin extract of the growth of the tubercle bacilli in culture media; is a brownish, syrup-like liquid, prepared in one per cent. solutions; the maximum dose is .01 c. c., the minimum being .001 c. c. Its injection will produce a chill, rise in temperature to 39, 40, or 41° C., or 105° F., accompanied by pain in the extremities, frequent desire to cough, debility, nausea and vomiting, the latter beginning four or five hours afterward, and of twelve or fifteen hours' duration; acts upon tuberculous tissue, not upon the bacilli, and has no action upon either healthy or dead tissue; has the power, however, to excite leucocytosis. It is used mainly by hypodermic methods; daily injections after subsidence of reactionary symptoms.

You are all aware of the *furore* the discovery of Koch excited, and of his claims and limitations for the remedy, and also of the large number of well-selected cases in which apparent cures were reported. Its failure was not due entirely to inutility of the remedy, but to the toxic properties and administration in too large doses in unsuitable cases. Koch only claimed that it would cure properly selected, incipient cases. The true value of the discovery and merit of the remedy were not, however, lost. Several eminent scientists and clinicians in Europe and this country, prominent among them being Hunter, of England; Klebs, von Ruck, Tradeaunof, of Saranac Lake; Taylor, of St. Paul; Ambler, of Ohio, and Dennison, of Colorado, continued its use in properly selected cases, while Prof. Klebs and Dr. von Ruck continued their efforts to obtain a culture product free from toxalbumins, and more directly germicidal, resulting in favorable reports from them all, and the discovery of "tuberculosidin," which is a modified or improved "tuberculin," free from toxic particles and directly germicidal, and the discovery also of "antiphthisin," an even purer culture product of greater efficacy, and now the principal one of those agents engaging professional attention. Tuberculin is used still, though mainly for diagnostic purposes. Koch recently announced that he had so perfected it as to be able to convince the profession of its virtue, asking a second clinical test by the profession. Prof. Klebs announced his "tuberculosidin" in the fall of 1891. As stated, it is simply an improved tuberculin, similar in physical characteristics, and freed of toxic principles. The dosage and method of administration are the same as for tuberculin. In the winter of 1891-92 von Ruck tried it in a series of cases, twenty in number. His results were reported as very favorable. Several clinicians of Europe and America reported favorably upon it after sufficient clinical tests. Dr. von Ruck, while applying experimentally some of the culture products in animals for diagnostic purposes, found that one among them possessed even greater efficacy in destroying the bacilli than did tuberculosidin, and proved the fact by clinical use upon man. It is made from the pure culture fluid, the ten-times culture fluid with the germs and all tox-albumins filtered out; it is a soz-albumin, containing the curative principles of all the others, in stronger and purer shape. It produces no reaction, and is absolutely safe under thorough asepsis; is albuminoid and digestible, and must therefore be given hypodermically, by local application or rectal injections. It is a clear, yellowish, straw-colored liquid; its administration and dosage are given in connection with clinical reports to follow. These reports are now quite frequent and always favorable, and it may be taken as an accepted remedy, strictly germicidal and distinctly curative. I include herewith the reports of Dr. Llewellen Barbour, of Tullahoma, Tenn.; of Dr. von Ruck, himself alone, and conjointly with Prof. Klebs; Dr. Ambler, of Canton, Ohio; Dr. Dennison, of Denver, Col.; Taylor, of Minnesota, and others, and also of the late "Commission of Investigation" appointed November last, consisting of fifteen of the best-known physicians of New Orleans, by the "Orleans Parish Medical Society," which latter report was made and favorably accepted by the society named in March last. Dr. Barbour confirms its freedom from poisonous properties; in several hundred injections of his own and witnessed, had noted no reactionary symptoms, having used as much as eight ctm. at one time. He begins first day with 1-20 c.c.; second day, 1-10 c.c., then increases by 1-10 c.c. each day up to ½ c.c., keeping this amount up for about six days; then again increases daily by same ratio up to 1 c.c., the patient to remain on that amount for a few days longer, and then increases by same ratio up to 1½ c.c., and continues at this amount as long as patient bears it or improves. His results in its use were amelioration in every case, lung condition improved, decided lessening of cough, generally entire cessation, bacilli disappearing, expectoration ceasing, temperature lessening, and with all there was increase in weight. Up to 15th of March last he had treated nine cases. One died (advanced stage) after some amelioration for a short time; three out of the first four cases apparently recovered. In eight out of nine cases he got excellent results; bacilli disappeared from sputa of each, getting a gain of about 27 pounds in six weeks.

Dr. Dennison has not published any statistical reports; had used the three remedies, however, with decidedly favorable results, preferring antiphthisin. He found, beside dead bacilli, numbers of degenerated forms, and gave it out as the best evidence of the efficacy of the remedy, and noted also their stimulating effect on the leucocytes of the body.

In properly selected cases Dr. von Ruck got in nearly every trial favorable results with Koch's "tuberculin," getting specially good results with tuberculocidin and antiphthisin—markedly so with the latter-named remedy. In the winter of 1891-92, before his institution was destroyed by fire, he had treated eight cases; two years afterward he reported 41.5 per cent. of recoveries from this number, and 24.1 per cent. radically improved. In 1892 he reported twenty cases treated with tuberculocidin specially. In many of them the treatment was begun before the fire, so that he could give only general statistical data and final results, which were reported as very favorable. He also reported results in 182 cases of pulmonary tuberculosis treated at the Winyah Sanitarium with both tuberculocidin and antiphthisin. This report is an exhaustive one, the cases being classified according to the stage of disease or prospect of recovery, and the results were not taken or noted in connection with either remedy separately, as they are practically identical except as to quality. The evidence is confirmatory, too, of the claims made for these remedies, he ascribing the greatest part of good obtained to antiphthisin. In class A, first stage, 32 cases gave 26 apparent recoveries, or 81 per cent.; in five cases the disease was averted, 16 per cent.; one case was counted as improved only, being 3 per cent.; none of these cases grew worse or were not improved. Seventy-four cases in class B, second stage of the disease, gave 26 apparent recoveries, or 35.1 per cent.; the disease was arrested in 25 cases, or 34 per cent.; 17 improved, or 23 per cent.; 3 not improved, or 4 per cent.; 3 grew worse, or 4 per cent. In last class, C, and last stage, 76 cases gave 7 apparent recoveries, or 9 per cent.; in 25 of them the disease was arrested, or 34.2 per cent.; 11 of them improved, or 14.4 per cent.; 3 not improved, or 4 per cent.; 29 grew worse, or 38.4 per cent. Of the 182 cases, 6 were not improved, and 32 grew worse. These last he considered incurable on admission. Twenty-nine out of the 32 incipient cases recovered, or 81 per cent., while 35.1 per cent. of middle-stage cases were cured, and 9 out of 76 last-stage cases were cured. He claimed that this series of cases gave for the remedies far better statistical results than any reports heretofore made here or in Europe.

The commission appointed by the New Orleans Parish Medical Society, as a result of their investigations reported that the evidence was sufficiently notable to lead them to believe that "antiphthisin had decided value," and to commend its tentative employment; a glandular case was "especially encouraging;" the remedy seemed "a most valuable aid in such cases;" stating also that "the hypodermic use of the remedy was especially advantageous under aseptic precautions." The following especial points were noted: "Lung area involved decreased;" "ausculation bore out results of percussion;" "vesicular respiration replacing to a greater or less degree morbid breath sounds;" secretion was diminished in some and entirely absent in others;" "bacteriological reports bore out results obtained in other examinations;" "the general condition improved in a large majority of cases;" remedy was "harmless;" and finally, "antiphthisin seemed to have curative, and not palliative, effects."

Dr. Ambler, of Canton, Ohio, reported very favorably on the use of this agent in glandular cases. Other clinicians of note have made similar favorable reports. It is the best of the germicidal remedies; its clinical test has proved decidedly favorable; it is harmless and easily administered—so that I see no reason why the profession at large should not adopt it.

Clinical tests, with very favorable results, have been made within recent years of blood-serum products, derived by injecting tuberculin into the horse, ass, cow and goat, rendering them immune to tuberculosis, and then applying the products therefrom, principally from the horse, to man—the object being to produce antitoxin in the blood inimicable to tubercle bacilli.

Hannau W. Loeb, Professor of Diseases of Nose, Ear, and Throat, Marion Simms College of Medicine, of St. Louis city, gives much confirmatory evidence for the use of the serum product in this disease, stating that "it deserved to be placed with the discovery of Behring and Roux's diphtheria antitoxin, as of great advance in modern scientific therapy." He reports nine favorably treated cases.

Very favorable reports have been made by Lemen, Wiggans, and also by Cole on surgical tuberculosis. Hunter and Campagna also have gotten favorable clinical results from these serums.

Dr. Victor Vaughn, only a few years ago, introduced the nucleins as directly antagonistic to infective germs entering the blood, citing that the germicidal powers of the blood, so long known, resided in the nucleinic proteid bodies contained in the protoplasmic, energized pabulum of the cells, that this nuclein or nucleinic acid was harmless injected into the human system, and invariably increased the polynuclear white-blood corpuscles. This process being called "leucocytosis," the disease-resistant forces of the body residing within these white corpuscles, and upon the introduction of a foreign or alien disease germ, they rush out, attack, emasculate, and destroy them.

Nuclein is sent out in three forms: A 1 per cent. solution, dose 10 minims daily injected, and increasing 5 minims daily, up to 40, 50, or 70, even 120 as a maximum; said to be absolutely harmless. Of the second special powder form the dose is 3 grains ter die and of the tablets, third form, one before each meal; it is derived by simple extraction from the lymphoid animal tissues and from the yeast of certain plants, the latter sent out in only 1 per cent. solution. Drs. Vaughn and McClintock both give very favorable results from its experimental trials upon animals and clinical tests upon man, reporting favorably for its curative effects in incipient tuberculosis. He made two reports, giving a number of cases in detail, and contended after each report that his results had been sufficiently favorable to encourage him to continue its use. In 1895 I treated two cases, with moderately good results, with the 1 per cent. yeast nuclein solution—one an ankle-joint disease of four years' standing, yielding to none of many older remedies tried, plainly and markedly improved under this treatment; while the other, an ulcer of instep, of sixteen years' standing, was cured; that is, it was healed entirely.

The profession has been slow to accept the nucleins, even upon the dictum of Vaughn and McClintock. From the beneficial results which I noted from day to day in my two cases and from reports of the above-named scientists and other able clinicians, I am persuaded to believe them efficacious. My cases were non-tubercular, specimens of tissue sent Dr. Bondurant for microscopical examinations, he so pronounced.

Waldstein, of New York, advanced pilocarpine from the field of pure medicine as an efficacious remedy for tuberculosis several years since, the profession failing to adopt it. Dr. Cyrus Edson has recently revived it in his new remedy for tuberculosis, "aseptolin," a combination of pilocarpine and phenol. "Aseptolin" is a chemically pure solution of "pilocarpine-phenol hydroxide" fluid, with 2.75 per cent. of phenol. It is to be used hypodermically, 50 to 70 minims daily, increasing 10 minims daily up to 100 or 120 minims; used also as a spray or by inhalation in 10 per cent. solutions iodoform oil, and said to be safe. The theory is that phenol exists normally in the blood, and is the only normal chemical ingredient that is increased in disease, and was therefore the normal antidote of the blood. It was non-poisonous, and Edson's object is to supply the system with sufficient quantity to resist and kill the invading germs and not injure the patient. Reports from Ripley, Lincoln, Brandt, of New York, and Beach, of Albany, N. Y., show 218 cases treated, 23 cured, and 68 improved so far as to give grounds for hope of a positive cure; 91 showed marked improvement in a short time, 3 resisted remedy, one of them dying.

I have given only in part the newer therapeusis of the disease, consisting chiefly of Koch's and Kleb's direct germicidal agents and the blood-serum products, and a few from the materia medica proper. It is a distinct scientific progress over the older orthodox remedies, and bids fair to wipe out the grand total mortality, one-seventh of the world's deaths from tuberculosis.

These remedies are part and parcel of the question of prevention of the disease—tuberculin, in its potent capacity, to diagnose bovine tuberculosis, and therefore aid in the prevention of its spread, and the others in making cures of incipient cases. I cannot give you the general average or percentage of cures for the newer therapeusis as definite or absolutely accurate. Possibly the general average is about 22 per cent. of recoveries; that for closed institutions, as sanitariums, from 20 to 30 per cent. Dr. von Ruck gives it for the Winyah Sanitarium as 22 per cent. of recoveries. Enough has been accomplished in the way of elucidating the cause of the disease and advancing its therapeusis as to permanently place it among those diseases distinctly preventable and curable. The prevention, limitation, or restriction of tuberculosis is perhaps more important than its therapeusis. A want of experience in the matter limits me to a relation simply of facts collated from journals and a review of the authorities for the preventive work of the past. In this attempt I will confine myself to a description of the germ, its habitats, characteristics; to the sources of infection, individual and public, and to the different channels of invasion. The preventive work of the past was largely done through individual hygiene and prophylaxis, confined to regulation of personal habits, the application of certain hygienic rules and systematic regimens of diet, exercise, including lung gymnastics, and rest with the exhibition of certain medicinal substances, general nutritive tonics, restoratives, systemic builders, and even physical measures tending to alter the physical being of those predisposed and presenting fertile soils for the germ—all based upon the constitutional theory, however, of the disease, as its germic origin was then unknown, and all taken with a view of arousing the vital energies and resistant forces of the body sufficiently to enable the predisposed and incipient tubercular patient to overcome the inherited tendency, liability, or susceptibility to the disease, and to cast it off wherever actual involvement of one or more atriæ had occurred. Prevention was almost entirely confined to individual prophylaxis—the specific, characteristic, and very vital germ which alone then, as now held, as causing the disease was unknown, so with its infectious and contagious nature, multiple sources of infection, and man's fatal liability to infection through predisposition and acquisition on account of the contaminated air taken in through the respiratory functions and daily food for his sustenance, as principal channels of invasion, were unknown.

The tuberculous individual was allowed to go at large, with no regulation of conduct, daily expectorating millions of very active bacilli, through ejected sputa, upon floor, carpet or pavement, or private apartment, public place, conveyance, or street. No education of consumptives, attendants, or physicians was attempted, and no specially equipped sanitariums for its scientific control, treatment, or limitations were instituted. No hospitals for consumptives especially were then erected, so favorably engaging the professional mind now, and already begun in many large centers of population, and designed to reach the poorer and pauper classes of the people, forming the source for a very large percentage of the consumptives.

The character of the germ, its infectious nature, sources and channels of invasion being unknown, and the necessity for sanitary education, supervision, and regulation of individual and collective cases not being felt, made the prevention of the past simply a question of individual prophylaxis, which fell far short of successful restriction or prevention.

Some general rules pertaining to general hygiene, cleanliness, and disinfection were made available, and doubtless had some good effect in lessening the per capita sickness from other causes and consequent deterioration of health, which in one already predisposed exerted a baneful influence and made him peculiarly susceptible to infection. These facts and the failure, or rather want of prevention peculiar to the past history of the disease, are amply proven by the continuance of the grand total of deaths —one-seventh of all the world's mortality due to tuberculosis—and the maintained ratio per thousand of population at about 15 per cent.

Not until 1881, when Robert Koch first discovered the germ, were any rational private or public efforts attempted or introduced looking to its restriction or limitation of its spread and dissemination through this germ. Its discovery, and the subsequent discovery of agents capable of arresting, controlling, and even destroying it, have led to both its private and public scientific sanitation.

The bacillus tuberculosis is a most active and fertile germ, of exceedingly remarkable vitality, maintaining its life under most varied circumstances and conditions—its habitats lying fully in the daily pathway of the human race, mainly in the ejected sputa or expectoration of tubercular patients, in the meat and milk of tubercular animals, especially the cow, cattle being very susceptible to the disease. It is transmissible from man to animal, and *vice versa*, by a number of agencies; communicable by sputa chiefly, and many other minor ways with which he comes in contact, or to which he is daily exposed, the sputa being cast upon such media as the handkerchief, floor, street, etc., already named. The sputa being very fertile, active, and constant, and now considered by most authorities, sanitary and public health bodies, as the chief, possibly single, source of infection for the majority of all cases, the sputa rapidly and readily drying into dust wherever ejected, contaminate the air he breathes and many articles of his environment. This germ is frequently conveyed to man through tuberculous milk and meat. The cattle, especially the domestic cow, singly or in dairy herds, are often found infected with the bovine tuberculosis; so that this fertile source has received attention necessitating police and sanitary inspection. Even whole herds have been known to be infected. Before the discovery of tuberculin, the examination of cattle for such infection was simply made in a physical way—the udders possibly alone looked after. Since it became known and introduced as a diagnostic agent of great value and accuracy, more by Prof. James Law than others, it has given rise to more general action and thorough inspection and regulation of bovine tuberculosis, especially by Boston, New York, Philadelphia, and Chicago authorities, and health boards in these and other centers of population, and in many of the European countries much has been accomplished, under rules and methods of inspection made absolutely successful by aid of tuberculin as a diagnostic test and the microscopical examination of the milk. In Germany especially, the system of sanitary inspection and regulation of tubercular cattle is very thoroughly and fully done by systems of abattoirs, where all cattle are slaughtered, being previously tested by tuberculin, and infected ones separated or destroyed. The system in this country is perhaps more general, but equally as efficient. The rules now extend to the importation of cattle by public inspection of herds to be shipped or received into ports.

This inspection of bovine tuberculosis has perhaps accomplished a great deal of good toward limiting the disease and preventing its spread through this source to man. The New York Board of Health has done thorough work along all lines of preventive effort. Under advice of such eminent pathologists as J. D. Bryant, Dr. Hermann Biggs, and others, it has by first educating the people, mainly tubercular individuals, attendants, families, physicians, and others connected with its prevalence, especially physicians, heads of families, of public institutions and places as to the danger of the spread of the disease through its germ contained in the sputa. This system of education was done chiefly by means of circulars containing all essential knowledge of this germ, its habitats and the sources of infection, contagion, and means of conveyance or invasion; and also instructing them through corps of special inspectors, their duties covering all modes of disinfecting, cleaning, renovating, living and vacated apartments, and by use of special spit cups, or bottles of some cheap and destructible material, for the daily reception of sputa and other excreta to be likewise restricted and destroyed. This board has thus sought to limit the spread of the disease.

The reports of Dr. Bryant mainly pointed out the necessity of general education as to the germ and its dangers and necessity for registration of cases, the inspection being suggested or advised, also recommended by Dr. Biggs. Later Dr. Biggs has made fuller, more comprehensive reports to the board, recommending thorough rules for complete sanitary inspection, regulation and restriction of the disease, which the board has adopted in resolutions covering the same grounds. Last month he announced that the consensus of fact and opinion had proved the bacillus to be the main agent of infection, and through the sputa, of its spread and prevalence—claiming that it was not only a distinctly communicable disease, but entirely preventable, and that the time had come for its absolute prevention; recommending, as a central measure, that the ejection of sputa should be absolutely limited to spit cups, etc., and means taken to control all tubercular individuals, as is done for other virulently infective diseases. The general rules for individual prophylaxis, personal and general hygiene, are all thoroughly presented to the people by the board, and are too well known to you for me to include in toto in this paper. I must cite you to the secretary for reprints, and to the numerous journals containing articles fully describing and covering the efficient work done in New York city, especially to the secretary of the board for "Scientific Bulletin No. 2" of the Health Department, City of New York, sent out from the Bacteriological Laboratory on the "Sanitary Supervision of Tuberculosis as Practiced in New York City," issued by Dr. Hermann Biggs and Dr. John Henry Huddleston, and also containing an article on a "New Bacillus for Diphtheria," or a new parasite like that germ found in milk and cheese, and some other investigations. It is possibly the ablest report out, and embraces about all there is in the present restriction and limitation of the spread of tuberculosis of to-day. The principal factor as considered by them and by all authorities to-day in its spread is the germ as contained and cast off in the sputa. The Philadelphia Society for the Limitation and Prevention of the Spread of Tuberculosis, the Chicago Board, and other authorities and workers in the line of bacteriology and of preventive, or state medicine, contend that this one source is more prolific of infection and more largely causative of its spread and prevalence than all others.

The work of the New York Board of Health and the Philadelphia Society along the line of controlling and restricting expectoration from tubercular patients have proven it beyond question, and also succeeded in diminishing the total number of deaths annually occurring in those cities from tuberculosis. The trend of thought, learned opinion, and all scientific work is now based on confirmatory evidence of the fact that "tuberculosis is in the largest majority of all cases acquired by direct transmission of the tubercle bacillus from sick to well by dried and pulverized sputum, as dust in the air;" and that the disease is therefore communicable and distinctly preventable.—*Columbus Medical Journal.*

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In Alameda, Cal., they have adopted the novel plan of saturating the meat of diseased cows with kerosene oil after being condemned by the Board of Health. This keeps the boneyard men from selling it to butchers for use as food. A gallon of common kerosene is pumped into the carotid artery after killing, by means of a Davis pump.

One occasionally comes across a layman who appreciates what the medical profession, as a whole, is doing for the public; but it is not often that we hear so much true sentiment uttered in our behalf as in a late sermon of the Bishop of Norwich, England, as quoted by the *Medical Herald.* He is there reported as saying:

> "Nor can I, nor shall I, be silent about the wrongs to which scores of medical men are subject. I refer to the startling contrast there is between the inexorable demands which society makes on medical men, and the elasticity of the social conscience with respect to his remuneration. I have known cases where they are summoned at all hours and all seasons of the year. Their bills are presented with timidity, if not anxiety, and they are sometimes received with amazement, sometimes with indignation, and sometimes relegated to oblivion. Nor are cases unknown where the righteous demand for work done is met by calling in another practitioner; he, in turn, to suffer as his brother did before him. I cannot permit myself to imagine that I address any such wrongdoer here to-day. But if I do, then, in my Master's name, I entreat you to remember that the medical men of this nation are the highest type of their class in the world; they are entrusted with the secrets of domestic life; they have all our liabilities of their order; they frequently die as martyrs to science, to suffering, to sympathy, to destitution. Believing this, my plea is that every unpaid medical bill be discharged generously, gratefully, cheerfully, and that whatever account must be deferred in payment, the last to be deferred is the account of him who is the human agent who has brought us into the world, enables us to continue our work in life, and many a time lays down his own in endeavoring to baffle death."

CHRONICLE OF PROGRESS

GENERAL MEDICINE

New Treatment of Whooping-Cough

L. Maestro reports his experience with ichthyol in the treatment of whooping-cough at Prof. Cervesato's clinic in Padua. His results have been extremely encouraging.

The ichthyol was administered in the form of pills in progressively increasing doses, beginning, according to the age of the patient, with from 5 to 20 ctg. (¾ to 3 grn.) daily. The dose was then rapidly pushed to 60 ctg. or 1 gme. (10 or 15 grn.) in the twenty-four hours. Sometimes the internal administration of ichthyol was associated with inhalations of a 3-per-cent. glycerin solution of the same substance.

In the eight cases of whooping-cough in which this treatment was resorted to, all the morbid symptoms rapidly subsided, and recovery was obtained within a time, varying according to the gravity of each case, but always comparatively short. The ichthyol treatment was invariably well borne by the little patients. There was no untoward action on the kidneys in any case, and the influence on the general condition was very favorable.

Dr. M. concludes from these observations that ichthyol must be considered as one of the most efficacious remedies in whooping-cough, the spasmodic attacks rapidly decreasing in number and intensity, and the duration of the affection being shortened in a marked degree.—*Med. Week*, 1896, IV.

Ingrown Nail

The following treatment, according to the *Gaz. Med. de Liege*, has been successfully used as a substitute for surgical interference by Dr. Reghi, as reported in the *Gaz. d. Osped.*:

"Apply every day a fifty per cent. solution of perchloride of iron. Direct the patient to take daily foot baths, and when this softens the skin and washes out the pus which has formed, the side of the nail as well as the groove made by the pressure of the nail should be stuffed with cotton soaked in the perchloride solution. The same operation is repeated twice daily, care being taken to remove the blackened crust that forms. When this is done, the toe is to be enveloped in a light dressing. During the first few days the patient should remain in bed. About the tenth day the granular mass disappears, the cavity of the ulcer is cleansed and presents a uniform surface, the end of the nail separates from the skin, and in twenty days the patient is cured. To avoid a relapse, it is necessary to separate the nail from the skin with a little cotton steeped in perchloride solution."

Action of Calcium, Strontium and Barium Salts in Preventing Coagulation of the Blood

The results of this research by Dr. R. M. Horne (*Jour. of Phys.*, XIX, 4) may be briefly summarized as follows:

1. The soluble salts of calcium, strontium, and barium retard or prevent coagulation of the blood when present in the proportion of 0.5 per cent. and upwards.
2. Barium salts have a more powerful preventive action upon coagulation of the blood than strontium, and strontium than calcium salts. Barium chloride materially retards coagulation of the blood in the proportion of 0.25 per cent.
3. Calcium hydrate in saturated watery solutions does not retard, strontium hydrate retards only slightly, while barium hydrate is highly effective in retarding coagulation of the blood.
4. The delaying influence of calcium, strontium and barium chlorides upon coagulation of the blood is overcome by dilution with distilled water, and by the addition of a suitable quantity of potassium oxalate.
5. Coagulation of blood, treated with calcium, strontium or barium chloride, is accelerated by a temperature of 30° to 40° C.
6. Sodium chloride and potassium chloride, added to the extent of 0.07 per cent. and upwards, do not accelerate but still further retard the coagulation of blood which has been treated with calcium or strontium chloride.

Detection of Small Quantities of Sugar in Urine

According to Mark McDonald, in an article in *The Lancet* (No. 3812), all the ordinary tests, which depend on the reducing action of sugar, simply show that some substance is present capable of exerting a reducing action, and since all normal urines contain reducing substances one has to resort to some further procedure in order to decide definitely whether the urine contains a little sugar, or whether it is simply that its normal reducing constituents are present in excessive quantity. We can proceed on one or two principles to settle the question. Either apply some test distinctive for sugar—*i. e.*, one not simply dependent on reduction—or eliminate the normal reducing substances. In a recent paper, Sir William Roberts strongly recommended filtration through animal charcoal as a means of removing the normal reducing agents. In regard to this question, the author found that normal urines after thrice-repeated filtration through animal charcoal were quite colorless and exerted extremely little reducing action. They contained no uric acid, but did contain some kreatinin in very diminished quantity. He also observed that when a little sugar was present (about 1 grain to the ounce), though the filtrate from the charcoal gave a much more satisfactory reaction with Trommer's test than the original urine, still there was no true precipitation of cuprous oxide. The filter was then filled with distilled water twice, and the washings collected separately and Trommer's test applied. The first washing gave a very distinct precipitate of cuprous oxide, but the solution was muddy. The second washing acted very nearly like a pure solution of sugar. Therefore, he concludes that the charcoal retains a large part of sugar. Much of this (but not all) can be recovered by thoroughly washing the charcoal with water. He thinks the application of Trommer's test to the washings of the charcoal is to be preferred.

Of all the methods for determining the presence of small quantities of sugar, by far the most satisfactory, he thinks, is the phenylhydrazine test. The method which he has used and found absolutely satisfactory is as follows: To 20 c. c. of urine in a test-tube add 0.75 gme. phenlyhydrazine hydrochloride and 1.0 gme. sodium acetate. Put in a water-bath at about 90° C. for forty minutes. Allow to cool slowly, and after some hours examine the precipitate under the microscope. If albumin is present in any quantity it should first be removed, as it sometimes interferes with the formation of the crystals of glucosazone. The only objection to the test, the author thinks, is that it is rather too sensitive. At any rate, small, isolated crystals should be neglected. The test may be rendered still more certain by treating some more of the urine with yeast for twelve to twenty-four hours, and then on applying the test again it should give a negative result.

For the rapid detection of sugar in as low a proportion as half a grain to the ounce, the author recommends the following method, which can be applied in a few minutes without any special apparatus: Half a drachm of urine, half a drachm of saturated solution of picric acid, a quarter of a drachm of liquor potassae, and about nine drachms of water are put in a long narrow test-tube, and the liquid heated uniformly just short of boiling. The upper part is then boiled for one or two minutes. At first the red color disappears in great part (kreatinin reaction), but if sugar is present it darkens again as the boiling is continued. In normal urines the color does not come back, however prolonged the boiling maybe. The presence of albumin does not interfere with the test. If a negative result is obtained, sugar is not present, at any rate in quantity sufficient to have any pathological importance. Should the test react positively, then some abnormal reducing agent is present, and if any doubt arise as to this being sugar it can be set at rest by applying the phenylhydrazine test in the manner above described, using the fermented urine also as an extra safeguard against error.

Medical Superstitions

In lieu of the large number of new remedies which have made their appearance during the last year, the following therapeutic hints taken from the New York *Press* have at least the merit of being very old and well known in former times, and in many cases were probably quite as efficacious as some of the more modern "cures." They are popular remedies in common use among the German peasantry.

The cures for epilepsy are especially varied, and are described as follows: To keep away epileptic fits, wear a thick silver ring on the finger, preferably one made from a coffin nail. In case of a "fit," open the clothing and scratch a cross on the breast with a needle, so that the blood comes, and lay a black cloth over the mouth. When one feels an attack of epilepsy coming on, he should look in a mirror, or smell of a bug of some sort.

Milk from a sow, blood from a weasel, a pregnant ass, seven drops of blood from the tail of a cat, or blood from a recently executed criminal, are all remedies for epilepsy.

For jaundice, drink water in which a gold piece has been kept for 24 hours, and shave the nose with a razor until the blood comes.

For malaria, chew the first violets of the season, eat apples Easter time, keep a three-colored cat in the house. Pass the fever over to someone else, if posible to an animal or plant, or bury it in the ground.

For ulcers, carry a nutmeg in the pocket.

For boils wear a gold piece, or a half of a hard-boiled egg, over the lesion.

To cure a felon, or "run-around," hold the finger in a cat's ear for half an hour.

Cancer may be cured by applying fresh, warm hen's, pigeon's or calf's flesh.

For toothache, trim your finger-nails on Friday, eat bread a mouse has nibbled, or bury a tooth in the hole of a mouse, or carry in the pocket a tooth from a soldier killed in battle, or from a murdered man. Kiss a mule. Rub the gums with the body of an ant, bee or fly, or prick them with a sharp twig from a sweet apple-tree.

For ranula of the tongue, spit on a frog.

To cure a goitre, rub in oil from a lamp, especially from a lamp that has burned by a death-bed.

For gout, wear a copper ring, made from a coffin-nail, or carry a snake-skin, potatoes, chestnuts, or the tooth of a mole, or a dried toad.

For alcoholism, drown an eel in brandy and make the drunkard drink it.

For impotence, drink a glass of mother's milk.

For stomach trouble, beer poured over a red-hot horse-shoe is helpful.

For hydrophobia, inscribe upon a loaf of bread, on the upper crust, the following words, and give it to man or beast, as the case may require:

"Gerum heirum Lada frium hide thyself."

To cure warts, rub the wart with a potato and feed the potato to a pig.

If a child is puny and of low vitality, bore a hole in a young tree, at exactly the height of the child. Drive a plug into this hole, along with some hairs of the child's head. The belief is that as the tree continues to grow, so will the child.

Freckles may be removed by washing in water contained in a hollow stump, three successive mornings before sunrise.

The Cause of Cancer

The Berlin reporter of *The Indian Lancet* of Nov. 16 says:

"A highly interesting discovery, which will perhaps afford a clue to the cause of cancer, has just been made in Prof. von Leyden's University Hospital in Berlin. A young woman of twenty-two and a man of sixty-three, both suffering from ascites and cancer of the stomach, were brought to the hospital last Spring. In order to remove the accumulated fluid, tapping was resorted to in both cases. The fluid was examined under the microscope, and hitherto unknown living organisms, belonging, probably, to the protozoa, were discovered. Professor Waldeyer, to whom the preparations were submitted, advised that they should be sent to Dr. Schaudinn, Assistant at the Zoological Institute of the Berlin University, who has been investigating the protozoa for years past. He began his examination on July 19, and ascertained that in both cases the fluid contained a parasitic ameboid rhizopod, which he named Leydenia gemmipara Schaudinn. He inferred that it is a pathogenic organism, but both he and Prof. von Leyden still abstain from deciding as to the connection between it and cancer, though they admit the possibility of such a connection. They have made a preliminary communication on the subject to the Berlin Academy of Sciences."

Paroxysmal Tachycardia

The author, H. A. Loeser, in *Virchow's Archiv.*, CXLIII, No. 3, deduces the following conclusions:

1. Paroxysmal tachycardia is a genuine disease in the sense of Bouveret and Martius, and is sharply to be distinguished from the symptom of tachycardia.
2. Dilatation of the heart is a frequent but not necessary occurrence in this disease, and can, therefore, only be considered a secondary complication, not an essential symptom.
3. Our deficient knowledge of the pathogenesis of paroxysmal tachycardia prevents an unassailable explanation of this secondary dilatation, and makes such efforts in reference thereto appear as purely speculative.

Cocainic Analgesia

The Rome correspondent of the *Brit. Med. Jour.*, No. 1877, says:

"Professor Ceci, of Pisa, followed with a paper entitled 'Cocainic and Morphinococainic Anesthesia in Relation to Chloroform Narcosis.' After pointing out the disadvantages of chloroform in private practice, he proceeded to give particulars of the operations he had performed with pure cocaine or with the addition of morphine. These cases amounted to 864, against 1159 chloroformizations. He began cocainic analgesia in 1886, and since 1891 he has increasingly used it. Up to that time he had performed 210 operations for the radical cure of hernia, ten extirpations of goiters, one resection of the rectum, one laparotomy, two vaginal hysterectomies, this with the local anesthetic. He considers the association of the general action of the morphine with the local action of the cocaine very important. He usually injects a maximum dose of 2 ctg. of morphine in old persons a quarter of an hour before operating and a minimum of 1 ctg. in young persons, but he never injects it in persons under from 15 to 20 years of age. He uses Merck's cocaine in a 2 per cent. solution of boric acid. 'The proportion is 1 per 100 (strong solution) to 1 per 200 (weak solution). The solutions are more active when warm (50° Celsius). He makes deep injections, and, if possible, at a distance in the passage of the nervous trunks to the root of the part. Simple or mixed cocaine anesthesia is indicated in systematic operations with a well-determined and not too extensive field; and in those of the hand, foot, forearm, leg, penis, in the neck, urethra, bladder, hernia, etc., occurring in adults and the old. It is contraindicated in operations with an extensive and ill-defined field, or too vast and deep; it is also contraindicated in children, and in very excitable and indocile persons. The morphino-cocainic analgesia lasts a much longer time than surgeons and experimenters have stated, that is, from 30 to 50 minutes. With the small doses Professor Ceci adopts he has never seen intoxication, but frequently dryness of the fauces, thirst, rarely excitement and loquacity."

Alimentary Glycosuria in Pyrexia

Having observed an intense alimentary glycosuria in a case of pneumonia, the author, H. Poll, in *Fortschr. d. Med.*, was induced to investigate in how far febrile affections in general favored the appearance of an alimentary glycosuria. Eleven of the sixteen patients examined had pneumonia, two typhoid fever, one polyarthritis rheumatica, one tonsillar abscess and one scarlet fever. In fourteen cases glycosuria was determined after ingestion of 100-150 gm. grape sugar. In one instance 8 per cent. of the sugar ingested was eliminated, but in the majority not more than ½-3 per cent. The author states he will discuss in a subsequent paper the theoretical significance of these findings.

A Valuable Test for Sugar

The December number of the *Dublin Jour. of Med. Sci.* gives the following from the *Med. Chron.*:

" 'A test-tube of ordinary size is filled for about half an inch with hydrochlorate of phenyl-hydrazin in powder; then acetate of soda in powder or small crystals is added for another half inch. The test-tube is then half filled with urine and boiled over a spirit lamp, the powders passing into solution as soon as the liquid is heated. After the urine has reached the boiling point I always continue to boil for two minutes. The tube is left in the stand, and examined again some time afterwards. If sugar is present a yellowish deposit forms, which under the microscope is seen to consist chiefly of beautiful needle-shaped crystals of a bright sulphur yellow color. The crystals are often found after the urine has been standing for half an hour; but after boiling the tube I have generally placed it in the test stand, and not examined the deposit until at least six or eight hours afterwards. If no sugar is present, only brownish amorphous globules, or yellowish scales are found.'

"The test when thus carried out is very sensitive; a diabetic urine so diluted with water as to contain only 0.015 per cent. of sugar gave no reaction with Fehling's solution and no indication of sugar by the fermentation test, but with the phenyl-hydrazin test showed a distinct deposit of long yellow crystals."

Treatment of Senile Pruritus

The means employed for combating senile pruritus are numerous, and vary according to circumstances in each case. Dr. Ellice M. Alger has found, however, that certain drugs exert a favorable influence on this affection in almost all cases. He has especially derived benefit from the use of the following mixture, which acts at the same time as a sedative, as a diuretic, and as a diaphoretic, while it also lowers the arterial pressure, which usually is exaggerated as the result of arteriosclerosis:

Sodium Bromide	8 gme.
Sodium Iodide	4 gme.
Sodium Salicylate	8 gme.
Sodium Acetate	4 gme.
Infusion Gentian	60 gme.

A teaspoonful in water, one hour after each meal.

As a local application, in cases in which the pruritus is confined to certain regions, the best preparation is said to be that recommended by Prof. Bronson, which is as follows:

Solution Potassa	8 gme.
Carbolic Acid	16 gme.
Linseed Oil	36 gme.
Oil Bergamot	10 drops

For external use.

When the pruritus is general, this solution should not be employed on account of the considerable proportion of carbolic acid which it contains. Recourse is then had to the following ointment:

Ichthyol	4 gme.
Resorcin	2 gme.
Lanolin	60 gme.

For external use.

Dr. A. says no menthol should be added to this mixture, as is usually done when antipruriginous ointments are prescribed, because in persons of advanced age menthol produces a very disagreeable sensation of cold.

Lastly, the diet of the patient should be carefully regulated; coffee and alcoholic beverages should be strictly abstained from. —*Med. Week*, 1896, IV.

PEDIATRICS

Birth Rate of France

France to-day, with all her industry, natural resources and ardent national life, says the *N. Y. Press*, finds herself face to face with the specter of a decadent birth rate, and her statesmen are planning, by the modification of the inheritance tax-law, to inspire a desire on the part of parents for more children. In brief, by exemptions to families containing more than three children and by additional taxes on those with less, they hope to counteract the alarmingly crescent tendency of French married couples to rest content with very few "olive branches." In 1894 the birth rate in France was 22 in every 1000 inhabitants, a decrease of 2.7 in a decade. This is believed to be the lowest birth rate in the world, and no wonder thoughtful Frenchmen are aghast; and to this must be added the facts that illegitimate births and divorces are on the increase. Our condition is by no means as bad, but it is bad enough to demand prompt attention and remedial efforts, if Dr. Billings' latest figures be trustworthy. In 1880, he says, our birth rate was 30.95 to every 1000 people and in 1890 it had dropped to 26.68. If it has pursued to now the descending ratio, it must be, at this time, about 24.50; not three per 1000 higher than the rate which frightens France. It appears further, from the eminent sociologist's researches that the class of parents best equipped to bring forth and educate children are the least inclined to this patriotic responsibility.

Spasmodic Cough at Night in Children, with Vomiting and Coryza

Paul Gaston, in *Jour. de Clin. et de Thér. Infan.*, attributes to coryza in children the excessive flow of mucus into the throat and larynx which causes spasmodic cough and vomiting. This is favored by funnel shape of the nares sloping backward and downward more in children than in adults, also by the longer time spent in sleep, during which this funnel empties its secretion into the throat. A child does not blow out the contents of the anterior nares, nor does he spit out the flow into the throat from the posterior nares. Nature must remove it by the aid of the reflexes, spasm of the glottis, coughing and vomiting. Often for want of careful examination of the nares and fauces in children, these symptoms are wrongly set down to worms, intestinal indigestion, etc.

His illustrative cases are all of a nervous type, children of 1 to 6 years, fairly healthy, affected with adenoid vegetations, light gastro-intestinal disturbances, sometimes catarrh of larger bronchi and cough coming on when lying down or on rising. The cough is spasmodic like whooping-cough, with nausea or vomiting, occurs only at night, due to the tickling of pharynx and larynx by the flowing mucus.

It may cause the following conditions:

1. Cerebral accidents, *e. g.*, meningitis, especially if the child is syphilitic.
2. The coryza develops the adenoids.
3. Purulent middle ear complications with ensuing deafness.
4. Spasmodic laryngitis, laryngismus stridulus, and sometimes edema, hoarseness and dyspnea.
5. Catarrhal bronchitis and broncho-pneumonia.
6. Digestive disturbances and vomiting.

The remedy: Steep narrow tampons or ropes of absorbent cotton in borated vaselin and pass them through the nares three or four times a day to cleanse these passages and medicate the surfaces. Antipyrin to be added if much sensitiveness and sneezing. The author favors 5 per cent. boric acid and 2½ per cent. to 5 per cent., according to age, of antipyrin in vaselin. Other treatment by sedatives is useless in these cases, but this will relieve and cure when at the proper time adenoids are also removed. The rationale is: "Keep the nose clean."

Syphilis in the Young

In a paper in *Pediatrics* (II, No. 8), by P. F. Barbour, we are told that the skin and mucous membranes are the seat of the earliest syphilitic manifestations in childhood. The syphilitic infant is usually badly nourished and presents the facial expression of a dried-up old man. This senile expression, with a muddy or *café-au-lait* tinge to the complexion, is strongly suggestive of syphilis.

The dermal lesions vary from erythema to bullæ, filled with purulent matter. Papular and squamous eruptions are rarer in a child, because of the delicacy and moistness of a child's skin; but mucous patches are commoner than in adult life. Syphilitic psoriasis may occur.

Diday says that non-syphilitic ecthymous pustules occur only in adults, and therefore the presence of ecthyma in an infant is almost certainly due to syphilis.

It is serious, because it indicates a profound infection, and because the ulceration is apt to do considerable damage. Syphilitic pemphigus is the most serious skin lesion, and is almost always fatal. That syphilis causes pemphigus is proved by the occurrence of the lesion on palmar and plantar surfaces, the age and the non-recurrence of the bullæ.

Mucous patches may occur on the skin in a child, where it is thin and moist. Sometimes they are found on the palms and soles of the feet. They are most frequent around the mouth, especially at the corners, forming the permanent fissures or rhagades.

Syphilitic coryza is a common and early symptom. Its course is slow, and it soon becomes purulent, and produces marked disturbances to the general health.

Onychia is somewhat more common than in the adult. Syphilitic iritis is, fortunately, much rarer than in adult life.

Bone lesions of syphilis may resemble those of rachitis. The cartilaginous portion of the bone between the diaphysis and epiphysis is more apt to be affected. Tumors arise abruptly from the bone, are small, ring-shaped and not tender as in rachitis. If the phalanges of the fingers or the toes are inflamed, we have the familiar syphilitic dactylitis.

Softening of portions of the skull are a rachitic, rather than a syphilitic lesion. It is called cranio-lates.

An enlarged and hardened liver, an enlargement of the spleen, and kidney trouble with transient albuminuria may be noted.

In clinics, hydrocephalus is the most common brain lesion produced directly by syphilis.

The retarded form of hereditary syphilis is much more difficult to diagnose. It corresponds to tertiary lesions. It affects chiefly the bones, eyes, ears, and nervous system. They may be expected at second dentition and puberty. There may be simply a lack of development. Malformations of the skull or nose or other parts of the body may appear.

Hutchinson's teeth are a familiar manifestation of this form of syphilis, and are stated by the writer to be nearly always associated with interstitial keratitis. Ear troubles are rare. If deafness develops, it appears suddenly, without any lesions to account for it.

The Use of Arsenic in Chorea

The prevailing method of treating chorea in this country, says the *Med. Rec.* (L, No. 13), is by arsenic, and the usual form in which this drug is administered is Fowler's solution. In France, Boudin's solution of arsenic seems to be much employed, and as it is much weaker than Fowler's it is said to admit of easier and more exact dosage. Dr. Jules Comby, of Paris, writing in *Méd. Mod.*, Aug. 19, 1896, describes his method of using this solution. He puts ten gme. of the strength of 1-1000 into 120 gme. of a syrupy solution, and gives to a child not under seven years two spoonfuls of this every two hours for the first day, and increases the amount of Boudin's solution by five gme. each day until he arrives at thirty-five gme.; then begins to decrease the daily amount to five gme. down to zero, when the patient will be found cured. This method is rather more heroic than that pursued here, and out of twelve cases which the author reports as having been thus treated and cured in the short period of from seven to thirteen days, some had nausea or vomiting, two had notable gastric embarrassment, one had arsenical paralysis (although this disappeared entirely), and one had passing pigmentation of the upper extremities. The treatment which the author says Grancher carries out at the hospital for children in Paris is preferable and is more in line with that practiced here, except that he gives Boudin's solution instead of Fowler's. He prescribes four gme. the first day, and increases the amount by two gme. daily to the point of tolerance, but does not advise going beyond thirty gme. a day. Another method of treatment in vogue in Paris is by antipyrin, but that remedy is slower and less reliable than arsenic.

Asphyxia of the New Born and Indication

Dr. B. S. Schultze, of Jena, in the *Centralblatt f. Gyn.*, No. 37, 1896, says that he believes that in the treatment of asphyxiated babies we should draw a sharp line between those in which the medulla reflexes are present and those in which they are absent.

To the first class belong the sthenic cyanosed babies, which are best treated by irritation of the skin by flicking with a towel.

The second class includes the pale, asthenic children. In these the medulla has been so long deprived of oxygen that any attempt at starting up respiration by the reflexes would be but a loss of time. The treatment in these cases is by swinging eight or ten times, according to the author's well-known method; then immersing in a vessel of warm water for a minute or two before continuing the swinging. Should respiration begin, the swinging may be stopped and the medulla stimulated reflexly by immersion in cold water or otherwise. Swinging after respiration has begun is of no use and interferes with the respiratory rhythm.

Regarding Laborde's method of rhythmic traction of the tongue, which was spoken well of in No. 28 of the *Centralblatt f. Gyn.*, the author thinks it is of doubtful value, as it is only useful in those cases in which the medullary reflexes are present, and has no special advantage over other methods of irritation. As compared with immersion in cold water, traction on the tongue produces more superficial inspirations and acts less promptly.

Digestibility of Sterilized Milk

On this subject there seems to be a conflict of opinion, and as the BULLETIN has already presented one side of the question, it is well to point out what Bendix, in the *Jahrbuch f. Kinderheilk.* (XXXVIII), has claimed on the other. He has arrived at the following interesting conclusions based upon experiments in feeding three children (aged 1¾, 2 and 2½ years) for equal periods (four days, six days and seven days, respectively) upon two dietaries differing only in the employment of pasteurized or sterilized milk, the most rigorous estimation of ingesta and excreta being made in each case.

With a child in good health there is no difference in the assimilation of nitrogen or fat in favor of pasteurized over sterilized milk, whence it follows that the sterilized milk is as well digested and as completely absorbed as non-sterilized milk. But with a child whose digestion is weakened by diminished secretion of bile, assimilation is diminished, as compared with the normal, in the proportion of 0.9 to 2 per cent. for nitrogen, and 2.4 to 3.8 per cent. for fat; but it is diminished equally for the two varieties of milk. The taste and odor of milk remain good after sterilization, though differing decidedly from that of raw milk; but it is taken as readily as pasteurized milk.

Contrary to the opinion of Kalischer, the author has never found that the brownish color of sterilized milk is liable to cause young children to refuse it. He has never seen sterilized milk produce the slightest disturbance of digestion; on the contrary, the general condition and appetite have been good, the stools normal, growth regular, and vomiting never occurred.

On the other hand, since sterilization prevents every danger of transmitting grave diseases by destruction of pathogenic microbes, while it prevents other diseases, especially of the intestines, by destroying the germs of fermentation and decomposition, the physician should insist upon its use in preparing milk for the artificial rearing of infants. Sterilization is preferable to pasteurization, since the latter does not insure so completely the destruction of bacteria, especially the spores.

NEUROLOGY AND PSYCHIATRY

Faith versus Science Curing

Dr. Robert T. Edes, in a paper on "Points in the Diagnosis and Treatment of Some Common Neuroses," read at the Hanover meeting of the White Mountain, White River and Connecticut Valley medical societies, had the following sensible advice to give medical men, regarding the treatment of patients with nervous affections and a leaning toward faith cure:

Setting aside the great injury which may arise from the neglect of efficient therapeutic measures of the ordinary kind by those who prefer to trust themselves to any of the acknowledged forms of faith cure, it is desirable that the physician, as distinguished from the faith curist, should be able to gain from his knowledge the firm persuasion and confidence which the curist gets from his ignorance. Patients are shrewd observers of their attendants when their senses are sharpened by anxiety. The curist can give them, with the boldness and undoubting sincerity which arises from knowing nothing at all about the nature of the disease in hand, assurances of the disappearance of their troubles, which the physician, unless he be certain of his diagnosis, would find it very difficult to assume, even if he thought it right to make promises which he is doubtful of being able to fulfill. One of the most interesting phenomena of the last few years, from a medical and psychologic point of view, is the systematic development of the various forms of faith cure, with their colleges, churches, professors and patients. The ready acceptance they find among persons of supposed mental cultivation would perhaps be not the less remarkable had it not always been so, which makes it less surprising but no less absurd. We cannot talk it down. It is better to study and to profit by it. A little inquiry is sufficient to show that the successful cases are those heard of, while the failures make but little impression; but even with a very liberal discount in this direction we must admit that people do get well under the influence of these humbugs, just as they have been doing for centuries from the king's touch, or the witch's brew, or Lourdes, or St. Anne de Beaupré, the Zouave Jacob, the Vermont Healer, fashionable springs, quack medicines made of the costliest of metals or the cheapest of weeds, or physicians good or bad, learned and ignorant. Cures, like fish, do not grow any smaller by being talked about and many wonderful stories shrink immensely when traced back to their original sources. The case which appears for a few days or weeks as almost a miracle sinks into obscurity, as specialist after specialist has been consulted and hospital after hospital is visited, each with the relief born of renewed hope, but each leaving untouched the psychic substratum of weakness, congenital or acquired, or the habit of invalidism.

But the residuum of real cures or of great permanent relief deserves our attention. It is the strong stimulus of faith and hope, the turning of the attention into other channels than that of symptom watching, the firm conviction of the possibility of the disappearance of pain and weakness, which is the active agent in this kind. There is no doubt that in many minds the active controlling forces are more easily reached by mystery and transcendental theories than by logic and observation; that imagination is a more powerful stimulus than scientific accuracy notwithstanding the liking which some have for the latter as a disguise. A preternatural science which can, with one sweep of vague theory, wipe away all discussions of petty details, is much easier to manage and to fit to the individual case, than a science founded on the observation of facts, and here utter ignorance gives to the charlatan an advantage which cannot be met by the physician with any half knowledge. Nothing but confident diagnosis can invest him with the well founded authority which the other can so easily assume because he knows not its dangers.—*Jour. Amer. Med. Assoc.*

Functional Neuroses (So-called)

In those affections (writer's cramp, pianist's cramp, etc., and functional spasms), usually regarded as neuroses, R. Vigouroux (*Progres Medical*) has found changes in the nerves and muscles in many cases, and concludes they are present in all others, but often so slightly as to be difficult to show except by very delicate and complicated tests.

The pathogenesis is summarized thus:

A.—Illness, general or dyscrasic, infectious or toxic, causing—

1. Exaggeration of reflex excitability.
2. Various lesions of nerves, muscles, synovial and fibrous tissues and vessels.

B.—These lesions cause the functional troubles, either directly by lessening the blood-supply and thereby the sensitiveness and strength of the muscles, or by provoking a reflex spasm.

He notes a new sign, "signe de l'angulaire" (probably spasm of "Levator Anguli Scapulæ"), which discloses an abnormal state of the whole muscular system, such as exists in chorea, hysteria, lead palsy, paralysis agitans, etc.

Treatment is to be directed towards—

1. The general dyscrasia, most usually found to be a lithiasis.
2. The functional and local troubles.

The chief means recommended is an exercise invented thirty years ago by an English specialist named Jackson. M. Vigouroux counts already more than fifty cases of cure, a noteworthy number because of the unanimous belief that these conditions are rebellious to all treatment.

A Name for the Whole Nerve Cell

Prof. Lewellys F. Barker, of Johns Hopkins University, thinks we need a name for what is more than that we now call the nerve cell. It should include the axis cylinder. He says:

The relations of the nerve cells to the nerve fibers remained for a long time unknown. The nerve cells occurring in groups within the nerve centers were known to possess branched processes, the so-called protoplasmic processes or "dendrites." Later on it was shown that the axis cylinder of every nerve fiber is always a process—an integral part, therefore—of a nerve cell, though this process is very different in form and probably in function from the other processes (dendrites). It has then been demonstrated that the whole nervous system is made up of units, each unit consisting as a rule of a nucleated cell body with its dendrites, together with one or more axis cylinder processes with side-branches (side-fibrils, and collaterals or paraxones) and end-ramifications. Each of these units inclusive of all its processes is in reality a single cell of the body, quite analogous to a single liver cell, or a single muscle cell, and a very suitable name for the unit would be "nerve-cell" were it not for the fact that this term has been used for decades to indicate only a portion of the unit as mentioned above (viz., all except the axis cylinder) and in many minds would call forth this erroneous idea. It remained, therefore, to find a satisfactory name for the whole nerve unit. Waldeyer, of Berlin, suggested that from the Greek ὁ νευρών a new German word be coined, "der Neurôn" (pl. "die Neuronen"), and the introduction of this term has been of significant influence in making the ideas involved in what is now generally called the neurone-conception of the nervous system generally known and appreciated. The term has been in Germany almost universally adopted by morphologists, histologists, physiologists and clinicians notwithstanding the objection offered by v.

Kölliker that the term ὁ νευρών in reality indicates "einen Sammelpunkt vieler Neuren oder Nerven." He has suggested that the word "Neurodendren" or "Neurodridien" be used instead. Van Gehuchten has adopted Waldeyer's word, spelling it in French "le neurone," and French writers generally employ it. The leading investigators in Spain and Italy have also adopted the same term; so that even if it were etymologically somewhat objectionable, its use has become so general and cosmopolitan that it seems as though we must also employ it in English. Baker's suggestion that we use the term "neure" is a very good one, but the term of Waldeyer has already become too prevalent to be easily supplanted. The question arises, how is Waldeyer's term to be anglicized? Would it be justifiable to bring it into English through the French and to spell it "neurone," pronounced "neurone," or could it be brought into English directly from the Greek and be so spelled and pronounced? It is especially desirable that this spelling and pronunciation be permissible, owing to the fact that a few writers, among others Schaefer and Donaldson, have employed another word, "neuron" (Gk. το νευρον), to mean the axis cylinder process, a nomenclature which is obviously etymologically faulty and which in my opinion is not likely to become generally popular owing (1) to the existence of a better term for the axis cylinder, viz. "axone" or "neuraxone" (Greek ἀξών), already current; and (2) to the likelihood of its confusion with the word introduced by Waldeyer for the whole nerve unit, a word now in almost universal use in other countries.—*Johns Hopkins Hospital Bulletin*, Nos. 68-69.

Hysteria

That a favorable prognosis is not always safe in hysteria has been shown by Fournier and Sollier. In some cases expectant treatment will not answer. Death may occur from spasm of the glottis. Fournier had a case with severe asphyxia in a young woman of 20 that was saved by faradism, but who afterwards had another attack in which she died. Where there are laryngeal manifestations in hysteria it is not safe to leave the patient to herself. Potain had a case of hysterical angina pectoris that died and the post mortem revealed nothing to account for the fatal result. In hysterical anorexia, death also has been known to occur even where artificial feeding has been resorted to. The system in such cases seems to have no power of absorption. Vaginal hysterectomy is particularly dangerous in such cases.—*Jour. de Med.*

SURGERY

GENERAL

The Operative Treatment of Fractures

The author, Emil Markers (*Beit. z. klin. Chir.*, XVI, No. 1), reports the results in 14 new cases of complicated fractures and 10 cases of pseudarthrosis or dislocated fractures, treated by the introduction of ivory pegs into the medullary canal of the fragments.

Of the new cases so treated, all but one yielded a good result; one died from delirium tremens. In three cases wire sutures had to be used in addition. Of the older cases, 8 were entirely cured, 2 were unimproved.

This method was used because it permits perfect coaptation of the fragments and their retention in perfect position. The operation itself is not dangerous; technical difficulties are relatively slight. If suppuration and a fistula occur, the foreign body is removed after consolidation has taken place.

The advantages of this method over suturing the bone fragments are as follows:

(1) The ivory peg permits more exact coaptation and retention; sutures for long bones are insufficient; the wire gets loose in many cases.

(2) The operation of suturing is not simpler, nor the technique more easily carried out.

(3) The conditions for the healing-in of the wire are less favorable than those for the ivory. Frequently, on removing the wire large sequestra are found. This was never seen in the reported cases.

Histological Examination in Sixty-four Cases of Adenoids

Brindil (*Archiv. Int. de Laryngol.*, 1896, IX) states that out of sixty-four cases taken at random, eight were from twenty to forty-five years of age, leading him to believe that the affection is by no means rare in adults. In twenty-five cases the epithelium preserved its normal form. In twenty-five it was normal in the crypts and flattened at the periphery. In fourteen the flattening and dermo-papillary transformation were found in the crypts as at the periphery. Modifications of the epithelium were independent of the age of the patients, and were due probably to the length of time the epithelial layer had been submitted to pressure against the walls of the naso-pharynx.

The hardness of the vegetations is in direct proportion to the amount of connective tissue they contained, and has no relation to the age of the patient.

In one instance, where a hemorrhage had occurred on the fifth day after operation (patient eighteen months old), there was found a thickening of the vessel walls and endarteritis. No other similar case of endarteritis existed in the entire series.

From the position of the muciparous glands (near the pedicle) and the closed follicles, Brindil concludes that the vegetation is projected under the epithelium, and that this is why, after scraping even a large area in the naso-pharynx, there is no cicatricial atresia of this cavity, as would be the case if the entire mucous membrane was destroyed.

Brindil describes, under the heading of "Latent Encysted Lacunar Adenitis," an affection characterized by a retention of epidermic débris and bacteria, and of mucus in a crypt which becomes closed at the surface. He shows the analogy it presents with lacunar tonsillitis, simulating an encysted abscess. Seven such cases were found in the series.

Finally he passes to the study of tubercular vegetations, giving a history of the question and the following results of his own observations. In eight out of sixty-four cases, evidences of tubercular change were found. They presented cheesy follicles with giant cells. The bacillus was found only once. The tuberculous nodules often occupied only a little corner of the preparation.

Pericardiotomy in Suppurative Cases

Bohn (*Deutsch. Med. Wochenschr.*) has collected from medical literature fourteen cases of pericardiotomy for suppuration. He adds a fifteenth case, occurring in a man aged 33, who developed a suppurative pericarditis as a sequel to left-sided pleuropneumonia. One month after the onset of the trouble, when internal medication had failed and death seemed imminent, the pericardium was opened in the third intercostal space, a finger's breadth to the left of the sternum, and more than a liter of purulent matter escaped. The pericardial cavity was drained with gauze and irrigated at intervals, during one week, with boric acid solution. Recovery was delayed by two relapses in the pneumonic processes, but was complete in four months.

An examination of the fifteen cases forces one to the conclusion that the operation of pericardiotomy is a very slight one. To be sure, seven of these patients died; but in six of the seven cases serious complications existed—pyemia, septicemia, suppurative myocarditis and extensive fatty degeneration of the heart. Of those cases in which the pericarditis was either the primary lesion or was secondary to a left pleurisy, only one died; and in this case the trouble had been allowed to exist for over two months before the pus was evacuated.

Pericardiotomy bids fair to take its place in the front rank of successful operations upon purulent serous cavities, and an exception in favor of the pericardium may cease to be made to the surgical dictum—*Ubi pus ibi evacua.*

Osteomyelitis

Dr. A. L. Fulton, in a paper on this subject, says:

In all suspicious cases of bone disease the surgeon should be constantly on the watch for the development of inflammation, and as early as possible, after the first evidence of tenderness serving to locate the infected area is observed, surgical interference should be resorted to, either by means of parenchymatous injection of iodoform emulsion, or the more radical operation for the removal of the limited foci in the medullary substance. There is no possible means of escape for the non-absorbable product of inflammation except by penetrating the bony structure externally, then the periosteum, and finally the para-periosteal tissue. This in young adults is often quite tedious, and very great destruction may occur before Nature has accomplished the necessary results to effect a cure. It is in these cases that we should be particular in making our diagnosis.

The preparation in these cases should be quite as thorough as if we were preparing for an abdominal section. Perfect cleanliness and the use of antiseptics cannot be too strictly observed. The point of infection having first been detected and the field of operation rendered absolutely aseptic, and the limb if possible rendered avascular, an incision should be made down to the bone. This should be trephined and the product of the inflammatory process cleared out, after which the bone cavity should be filled with iodoform, and the wound packed with iodoform gauze and closed up, with the exception of the drainage opening. Dr. Nicholas Senn's apparatus for forcible injections of iodoform emulsion is very useful in cases of limited tuberculous foci. Even if we are mistaken in our diagnosis, little harm, if any, will be done by the operation, carefully performed. If the inflammatory trouble exists, great benefit will be accomplished, and much tissue saved that would under other circumstances have been destroyed by the destructive inflammatory process, to say nothing of the danger to the life of the patient.

In conclusion he emphasizes a few salient points:

1. Neither spontaneous suppurative osteomyelitis, nor tubercular osteomyelitis, originates in the compact tissue of bone, primarily.

2. The structures involved in the primary infection in each are exact anatomic counterparts.

3. The conditions under which the infection originates are alike.

4. The infection in both forms of inflammation is conveyed to a *locus minoris resistentiae*, under like conditions.

5. The area of bone tissue involved is far remote from the part where a slight trauma could obtain through the blood current.

6. The infection and inflammation always exist prior to the injury supposed to produce it.

7. *Restitutio ad integrum*, without the formation of an abscess, never occurs.

8. To preserve bone tissue and protect the health or life of the patient an early and thorough operation is imperative.—*Railway Surgeon.*

The Surgical Treatment of Diseases of the Vermiform Appendix

J. A. Macdougall, M. D., discusses the subject in the *Ed. Med. Jour.*, No. 498, as follows:

Causes—Catarrhal, ulcerative and infective usually ascribed; also mechanical, *e. g.*, strangulation of the organ and torsion and traumatism, but these latter infrequent. Much stress is laid on the infective form, it occurring independently of stercolith, foreign body, severe ulceration or acute catarrh, and may at times produce little vital sign of gangrenous appendix. This form may give rise to intense septic peritonitis without visible lesions of the parietal wall; is a common cause of acute general peritonitis. These lesions due to bacteria and their products. The bacillus coli communis the agent.

Symptomatology—Pain the earliest as a rule, and its character is important. Acute gangrenous usually intense; perforative cases have severe onset; also in cases of acute torsion of appendix. Slightness of pain may be most deceptive at the outset of an attack. At first this may be general, and may be referred to epigastrium of left illiac fossa. Following quickly the onset of pain is tenderness, and this holds higher prognostic value. This also may be general at first, but pressure over M'Burney point shows seat of greatest intensity. Pressure made with finger-tip at same time that patient is asked to cough, most readily brings out the symptom. Muscular rigidity of adominal wall, its hardness, its flatness or its distension, will be noted. In marked cases, muscular rigidity more or less developed in right illiac fossa, and a hard boardlike and absolutely silent belly on auscultation, is noted in gangrenous cases or sudden perforation. The increase of tympanites is a sign of value in prognosis. Vomiting—its increase and severity—indicates as to the gravity of the attack. Nausea an important symptom. The nature and rapidity of the pulse mark severity of attack and urgency, as well as depth of constitutional effect. A quick and quickening pulse with little arterial tone, together with normal or subnormal temperature, is suggestive of grave harm. The relation of pulse and temperature important therefore. Temperature an important sign of the formation of pus. Tumor seldom appears before the third day and may be so small, or so situated anatomically, as to be difficult to detect. Examination per rectum or vagina advised. A sense of doughiness or puffiness may take place of well-defined swelling; sense of thickening and tumefaction, with resistance, may be all that can be detected. The rapidity with which a tumor appears, and the size it attains, must be considered as probable of pus formation. Signs of pus, an increase in size and tenderness of tumor when after having been definite, but stationary as to growth; sudden local pain, with increased tumor, œdema of skin, rigors, possibly sweating. Deeply-seated pus gives debility, anorexia, emaciation, anemia, where the more tangible signs are wanting. These signs will class observation of series of cases as (1) mild or simple appendicitis; (2) with abcess; (3) acute perforating; (4) relapsing.

Symptoms of 1st class are: Pain, diminishing in character. Tenderness in right illiac fossa, and especially marked at M'Burney point; muscular rigidity increasing, but limited; slight tympany; temperature at first high, then falling; pulse not much quickened, remaining good; vomiting occasional, but not distressing feature; facies natural; gradual formation of tumor, which disappears quickly or quite slowly. When this persists, examination per rectum advised to note complete disappearance.

Class 2—Onset with more acute pain, tenderness, temperaure, quicker pulse, more persistent vomiting, notable rigidity and limitation of movement in right illiac fossa.

There is rapid development of tumor; it is larger, more acutely tender. These signs either remain or undergo increase.

Class 3—All symptoms markedly pronounced. These cases are more rare and most apt to appear in those in full health. It is the rapid course of these cases which has aroused the wise anxiety of every phase of appendicitis.

Class 4—Subdivided into recurrent and relapsing. In the one the ill-health of an acute attack may never pass away entirely. In the other he may be entirely well between the attacks, which may occur at long and irregular intervals. The symptoms are those of simple appendicitis.

Early operation is the only treatment for Class 3; in others interference is not the less necessary. Withal, medical treatment has done much for certain classes of cases. The operative treatment is always serious, but not the less necessary.

The Bicycle for Scoliosis

Kiliani, in an article in *Med. Rec.*, No. 1356, recommends the use of a stationary modified bicycle as an aid to the treatment of lateral curvature. Photographs are given of a well-formed girl on this wheel, the right handle-bar being placed four or five inches lower than the left. This seems to create an artificial curvature convex in dorsal region to left, in lumbar region to right, with slight rotation backward of ribs on left. Photographs are also shown of a girl with slight rotary lateral curvature, convex to right in dorsal region and to left in lumbar region. This patient is then placed on the bicycle modified as above, and the effect appears to be a diminution of the dorsal curve in all positions, and a diminution of the lumbar curvature when pedals are horizontal and left foot is forward, also when pedals are vertical and right foot high, also when left side of saddle is raised.

The author says the lateral inclination of the saddle seriously interferes with balancing, and consequently a fixed machine has to be used where this inclination is desired. The lowered handle-bar alone, however, does not interfere with riding.

Photographs are notoriously inaccurate as a means of recording curvatures of the spine, and a decision as to the real, not the apparent, effect of this exercise must be deferred until further observations have been made. At the most, it is an exercise of the muscles controlling the secondary lumbar curve, and a passive correction of the dorsal curve. The modest way in which Dr. Kiliani has proposed the method insures, however, a hearty co-operation with him in his very interesting investigations.

GENITO-URINARY

The Effect of the Roentgen Rays on Urinary and Biliary Calculi

According to Morris (*Lancet*, No. 3820) X-rays render no aid in diagnosis of renal and biliary calculi; reasons for this being in the interposition of ribs, proximity of kidney to vertebral column, depth of cavity and thickness of overlying tissues. Reproductions of shadowgraphs show the effects of the rays on the various salts composing the calculi when subjected to those rays after removal from the body. The lime salts of thin sections offer greater resistance to the rays, and show darker in the shadowgraph than do the thicker sections which are composed of uric acid and urates entirely. Also, the rays seem to find a greater difficulty in passing through the two media when one is superimposed directly upon the other, than when passing through either the lime salts or the urates separately. It is a question if calculi composed of uric acid and the urates and biliary calculi would cast any appreciable shadow when acted upon by rays strong enough to pass through the thickness of the renal or hepatic areas of the body. But with calculi composed of oxalate of lime or mixed phosphates this doubt does not apply, because these salts leave a deeper shadow than bone. From this comparison it is deduced that the shadow cast by the skeleton is due to the lime salts in the bones. Shadowgraphs of a rib and a decalcified rib were made under like conditions of exposure, etc. The former left a deep shadow, the latter scarcely any.

New Operation for Hydrocele

The *Internat. Med. Mag.* recommends the following as a successful operation for the radical cure of hydrocele:

"The sac is punctured in the usual way, and when about a third or one-half of the fluid has been withdrawn, two dr. of a saturated solution of bichloride of mercury in glycerin are injected and mixed with that which remains, and allowed to rest in the sac for from a half-minute to a minute. The whole of the fluid is then drawn off to the last drop. Very little pain is experienced, and unless the patient is nervous and takes an anesthetic, he is able to move about immediately after the operation. For the next few days he must, as a rule, lie about, but need not in any case be confined to bed, and in a week or less he is quite well. Provided there are dangerous symptoms of resorption and in which the drainage cannot be established by paracentesis or by the natural perforation.

(6) In all cases of muco-purulent otitis in which the otitis is evidently maintained by mastoid involvement.

(7) In cases of mastoid disease, or otitis complicated by lymphangeitis, in which, there is imminent danger of the formation of an abscess.

(8) In cases of protracted otitis in which there are symptoms of serious secondary complications, involving danger of extension of the inflammation inward toward the brain, or downward toward the neck.

(9) In cases of acute otitis in which complicating stenosis of the external canal prevents drainage and thorough cleansing of the middle ear.

Nasal Coloboma of the Optic Nerve—Gray Atrophy of the Disk with Peculiar Fields

The case Ogilvie cites (*Trans. Ophth. Soc. Un. Kingd.*, XV) occurred in a male epileptic, aged 56. He had seven children, and out of these three were epileptic. His occupation was that of a cigar sorter, but seldom smoked more than nine cigars in a week. His sight failed so that in four months he was obliged to quit work. There was slight atrophy of both disks, with nasal crescents, and signs of perineuritis. The knee and wrist jerks were exaggerated. No albuminuria, syphilis, or alcoholismus. Hemianopsia inferior well defined in left eye, and in the right eye left lateral hemianopsia. According to Dr. Taylor, the fields resulted as the effect of atrophy following neuritis, and consequently due to a peripheral lesion.

Rhinitis as a Factor in Phlyctenular Ophthalmia with Its Therapeutic Consequences

Dr. B. A. Randall, at a recent meeting of the College of Physicians of Philadelphia (*N. Y. Med. Jour.*, Dec. 12, 1896), read a paper on this subject, in which he cited, among the many causes of phlyctenular conjunctivitis and keratitis, the inflammatory affections of the nose. In the great majority of cases, he said, the nasal mucous membrane would be found hyperemic, and there would be over-secretion of the nasal mucous membrane. Cure of the eye disease could be effected much more rapidly with treatment of this condition than without it. Alkaline and oily sprays were indicated, combined with applications of solutions of iodine to the pharynx.

OBSTETRICS AND GYNECOLOGY

Successive Pregnancies of a Double Uterus

A primipara of 28 years of age was attended by Dr. Consolas, of Athens (*Archiv. de Gyn. et de Toxol.*), in which at the time of delivery he found two vaginal passages, each leading to a cervix. The left cervix was dilated with the amniotic sac. The right was closed. From the left the delivery occurred without complications, but with the aid of forceps. A second pregnancy occurred, and which he also attended. In this he found that the left uterus was empty, the right being the seat of pregnancy. In neither delivery was the septum torn that divided the two parts of the vagina.

Vomiting of Pregnancy

Dr. Rech reports a case illustrating the successful use of orexin in the vomiting of pregnancy; thus confirming the favorable report of Frommel published in 1893. Dr. Rech gave the drug in doses of 0.3 gme. (4½ grains), in capsules, three times a day. The first and second doses were not retained, but after the third dose the vomiting ceased. With the exception of a burning sensation in the mouth, no ill effects were observed. Nux vomica, bromides, chloroform, tincture of iodine, and cocaine had been employed without success.—*Centralbl. f. Gyn.*

Successful Cesarean Section After Death

The *Brit. Med. Jour.* (No. 1874), in an article on this subject, says:

"There can be no doubt that the aim of the obstetrician is to save both mother and child. When there is any difficulty about the rescue of both, the mother must first be considered. When the mother is already dead the child is usually dead also, but this is not invariably the case. The medical attendant should certainly save the child if he can, but for obvious reasons he may be prevented, especially in private practice. The patient's relatives may well feel more respect for a corpse than solicitude for an unborn infant. Yet it is well to remember and to remind them that the child may be saved. In an obituary notice of Dr. Harley, mention was made of his success in saving a child after the mother's death. The patient was suffering from mitral obstruction and aortic regurgitation; there was anasarca, but it would appear the urine had only been tested once, ten days before death, and no albumen was detected. The kidneys were found 'full size and quite healthy.' On April 25, 1850, the woman, in the beginning of the ninth month, had a fit of dyspnea in the kitchen of the Edinburgh Royal Maternity Hospital. Harley, then house-surgeon, diagnosed spasm of the glottis, and performed laryngotomy. The dyspnea increased, and he was beginning the operation of tracheotomy when the patient died. He immediately tore through the patient's dress, opened the abdominal wall and the uterus, seized the child by the leg, and delivered it. It was in a state of suspended animation; cold water, inflation and artificial respiration revived it, and the cord was cut. The child was a male weighing 6 lbs. 12 oz., and measuring 18½ inches. Not more than twenty minutes elapsed from the time the patient was seized in the kitchen till all was over, including the stitching up of the abdominal wound and the removal of the mother's body. The child not being premature was easily reared, and grew up to manhood. A very interesting case of successful *post-mortem* Cesarean section has recently been reported by Sandberg, of Christiania. He operated under very unfavorable conditions, as the mother had died of eclampsia, an affection very perilous to the fetus. The patient was a primipara aged 36, and expected her confinement on September 20, 1895. In July of the same year anasarca set in. On August 18 she died comatose, after numerous attacks of eclampsia. Four minutes after the heart sounds had ceased, Cesarean section was performed. The uterus was opened after the escape of much ascitic fluid. The child was born asphyxiated, but breathed well a quarter of an hour after delivery. It was under 4 lbs. in weight, and not 16 inches long. Placed in an improvised *couveuse*, it was fed with a mixture of 1 part milk, 3 parts water, and 4 per cent. sugar of milk. The infant was successfully reared, and was living in October, 1896, when the report was published. This remarkable case of the delivery and rearing of a truly posthumous child is a triumph for the *couveuse* as well as for the well-timed operation for which Dr. Sandberg deserves credit. We have already noted its ethical bearing, an interesting question for medical jurisprudence. As Spiegelberg has pointed out, Roman law directed that before the corpse of a pregnant woman was buried, Cesarean section should be performed. By Prussian law, the performance of Cesarean section on a woman who has died during pregnancy is left to the judgment of the medical attendant in the particular case. Löwenhardt and others advocate the operation when the mother is *in articulo mortis*, but though this doctrine is based on a high principle, it is contrary to higher sentiments, and does not find favor either with the profession or the public."

Female Gonorrhea

According to Canova, as reported in the *Centralbl. f. Gyn.* (No. 41, 1896), there is no remedy so promptly curative in this trouble as ichthyol. He uses injections of 0.5 per cent. in water with the most satisfactory results. It causes no pain, reduces the inflammation by the first injection, and often the patient is wholly recovered in six days.

Diagnosis of Pregnancy with the Microscope

Dr. Parke, of Philadelphia, in the *Amer. Gyn. and Obstet. Jour.*, reports that after a microscopic study of the triple phosphates in the urine of pregnant women, he is satisfied that they begin to change their form within twenty days after conception. The feathery appearance first disappears from the tips of the crystals and progresses downward to the base. Sometimes this occurs on only one side, but generally on both. If the fetus dies, they resume their normal appearance again. The advantage of this means of diagnosis is that it can be made without the patients' suspecting the object of the examination, and at a much earlier period than any reliable physical sign can be obtained.

A New Method of Ligating the Uterine Artery

Altuchoff and Sengiroff, of Moscow, in the *Monats. f. Gebürt. und Gyn.* (III, No. 6), describe their new method of reaching the uterine artery after laparotomy by drawing the round ligament well forward and the Fallopian tube backward, and making a broad triangular space between the two structures. An incision 3 cm. long is then made behind (above) the round ligament and parallel to it. By dissecting down from 12-16 mm. in the loose connective tissue, keeping near the anterior layer of the broad ligament, the artery is easily found and ligated. The round ligament and pampiniform plexus may be included in another ligature if desired. With the broad ligament stretched out in this way, the ureter and accompanying uterine veins are located much deeper than the artery and near the posterior side of the broad ligament.

Sengiroff has ligated the uterine artery eight times by this method, and in seven of the cases removed complicated tumor of the uterus and adnexa bloodlessly. Once the ligation was performed for menorrhagia due to fibroids.

The ligation is usually performed easily, though large tumors and other complications may greatly increase the difficulty.

Cervical Pregnancy

Trotta, of Naples, described in the *Atti della Soc. Ital. di Ost. e Gin.* (II, 1896) the case of a patient 40 years old, primipara, who had aborted four weeks previously. The uterus was removed on account of fibromata. Examination showed the cervical canal to be the size of an egg. The wall was covered with a soft tissue which contained chorionic villi and showed other signs of being the site of the ovum. The uterus was lined with a decidua similar to that seen in tubal pregnancies. This is one of the few well-authenticated cases of cervical pregnancy.

Ovariotomy After Seventy

Dr. Howard A. Kelly, of Baltimore, in the *Amer. Jour. Obstet.* (No. 2), reports five cases of ovariotomy in women over 70 years of age.

The first case was 75 years old; the operation was for a rapidly growing right ovarian multilocular cyst with elongation of the adherent uterus up into the abdominal cavity. The patient made an uncomplicated recovery.

No. 2 was 73 years of age. She had a left ovarian cystoma with areas of adeno-carcinoma. A rapid recovery.

No. 3, aged 74½ years. Had noticed abdominal tension for one year past. A large left multilocular adeno-cystoma of the ovary was successfully removed, followed by a rapid recovery.

No. 4, aged 71 years. Had noticed abdominal enlargement four to five months before. A left ovarian adeno-cystoma was removed. She made a good recovery.

No. 5 was 72 years old. Two weeks before examination she noticed a hard lump in her side, and low down. The abdominal incision disclosed the pelvis and lower abdomen choked by papillary ovarian tumors with thin walls and everywhere below densely adherent. Enucleation was out of the question, so the abdomen was closed. The patient quickly recovered from the exploratory operation.

These five cases have occurred in a series of 1700 abdominal operations, a proportion of 1 to 340. Of these, 150 were ovarian cysts, making the proportion in old age about 1 to 30. Women over 60 years of age regard an operation for ovarian cyst as far more dangerous than in younger women. Kelly's statistics show that there is little if any increased risk at the advanced period of life.

A Case of Advanced Extra-uterine Pregnancy of Six Years' Standing

Emil Ekstein, of Teplitz, in the *Monats. f. Gebürt. und Gyn.* (III, No. 6), describes the case of a 36-year old primipara who became pregnant in February, 1889. In August of the same year she was attacked with severe pain in the side and hemorrhage from the vagina. She was sick in bed for six weeks. The attack was followed by an abundant secretion of milk. Menstruation came on after a year.

For several years the patient suffered from sleeplessness, night sweats, and a dry cough which gave her severe pain in the left side.

When seen by the author in May, 1895, there was a hard tumor in the left side of the abdomen, extending from the iliac fossa to two fingers above the umbilicus; it also extended down into the pelvis and could be felt by the examining finger. The uterus could not be made out by bimanual examination, but the sound showed it to be 7 cm. long and pushed over to the right.

A diagnosis of extra-uterine pregnancy was made, and the patient was operated on in May, 1895, about six years after the pregnancy took place.

Upon opening the abdomen, a tumor about the size of a 6-month fetus was found in a connective tissue capsule adherent to the peritoneum on all sides. It had originated from the right tube and had been carried across to the opposite side of the abdomen. The left tube and ovary were normal. The adhesions were separated, the tumor brought out of the wound, ligated off and removed. The patient made a good recovery.

Examination by Professor Chiari, of Prag, showed the sack to be made up of connective tissue; and in one place a diverticulum was found which showed fimbriæ of the tube; a sound could be passed down the tube a short distance, though the uterine end could not be made out. A placenta was found near the abdominal end of the tube with the cord springing from its center.

The fetus appeared to be 6-7 months old. The skin in places was reduced to a pulpy mass, so that the bones were exposed. The other organs were fairly well preserved. The diagnosis was: "Tubal pregnancy with mummification and partial maceration of the fetus."

BACTERIOLOGY AND PATHOLOGY

Tuberculosis Modified by X-rays

In experiments with guinea pigs, made by Lortet and Genoud (*Lyon Med.*, 1896, No. 26), it was found that when they were infected with tubercle bacilli and exposed to Roentgen rays one hour each day, the inguinal glands became enlarged, hardened and circumscribed. Those not so exposed, but inoculated in precisely the same manner, had suppurating glands and spontaneous evacuation.

Malaria Germs Carried by Mosquitoes

It has often been suggested that flies and mosquitoes are active disseminators of bacteria. They have been accredited with being active carriers of typhoid, cholera and other pathogenic micro-organisms. Dr. Amigo Bignani has been studying the matter in Italy and presents the following facts to sustain the theory:

If one admits the inoculation hypothesis many facts which are difficult to explain by the theory of air-conduction would find a simple and satisfactory explanation, and it is easy to demonstrate this. First of all, the fact, which we have already discussed at length, that malaria is not carried by the winds would be easily understood, knowing as we do how closely these diptera are bound to the soil on which they are hatched, and how adverse they are to allow themselves to be carried away, hiding, when the wind blows, in the ground, among the grass, or under the trees. Also when a sea breeze blows in the afternoon the mosquitoes of the Roman Campagna do not show themselves, and only when the wind has gone down at the setting of the sun do they rise in clouds everywhere and attack animals and men. That the evening and night hours are the most dangerous, on account of the facility with which fever is then taken, would be easily understood by any one who knows the habits of this nocturnal dipter. That malaria only rises to a moderate height would also be equally intelligible, because the inoculating insect always flies near the ground. A satisfactory explanation would also be furnished of the great danger of sleeping in malarial districts, a fact of which the supporters of the air-conduction theory have never been able to give more than an artificial explanation. Any one who has experience of malarious districts well knows a number of cases in which the patient attributes the fever that torments him solely to having slept a few hours in a place where several times he had perhaps remained while awake without harm. Three years ago I made with my colleague, Dionisi, various excursions into malarious localities for the purpose of study, and more especially with the object of collecting from the inhabitants the results of their experience—an experience which one finds with difficulty in books. Many precautions which they take against the fever are taken, one would say, to defend them from the sting of insects. They avoid going out at night; they are very careful not to sleep in the open air; they hermetically close the windows—windows with badly fitting shutters, which might impede the ingress of insects, but certainly not of air and of the germs which it might contain. They take great care of their mosquito curtain, making it of very close net, under which they sleep, thoroughly shut in, notwithstanding the great heat.

It is interesting to remember that Emin Pasha never omitted to take a mosquito-net with him on his African journeys, and he attributed to this precaution his not having had fever, the malarial agent in his idea being a corpuscular substance of which he supposed the close net did not permit the passage. Nicolas, in his book on the "Hygiene of Camps in Marshy Places," thus expresses himself on this question: "And the mosquito-net, well shut, is indispensable at night. Without attributing to the puncture of mosquitoes any relation whatever with the microbes of the fever, one may be certain that irritation by them produces sleeplessness and predisposes to the fever." On the estates and farms visited by us in the Campagna, the overseers, who are less frequently attacked by the fever than the workmen, protect themselves with great care from the bites of insects, especially during sleep. On the estate of Porto, near Fiumicino, where a bad type of malaria prevails, and which I visited several times in company with my colleague Dionisi in the height of summer, we obtained the greatest amount of information about the habits of mosquitoes, and the results of the experience of the inhabitants on the way in which the fever is caught. The greater number think that the fever is taken almost always during sleep. A very brief stay sometimes suffices—even one night. But ordinarily, even in districts very subject to malaria, a longer stay is necessary, so that the workmen who go on to the property at the beginning of July for the threshing commence to get ill as a rule eight or ten days after their arrival. On the other hand, those who go in September for the working of the ground often get ill more quickly—after only two or three days' stay. Many have observed that in autumn after the rains the mosquitoes increase and likewise the fevers, and as the season advances they disappear together little by little. Thus, collecting from the inhabitants (who are really much better informed about malaria than some medical men) the results of their experience, the conviction grows upon one that if malaria were inoculated by mosquitoes into man all the questions which I have put in a preceding paragraph would receive an adequate answer. Malaria behaves itself with regard to man as if the malarial germs were inoculated by mosquitoes. —*Lancet*, Nov. 21, 1896.

Gas Producing Bacteria

In the *Montreal Medical Journal* two cases of infection by the bacillus "aërogenes capsulatus" are described by Doctors J. G. Adami and W. H. Jamieson. They believe that the infection occurred before the death of the patients, but consider it as secondary. In Dr. Jamieson's case there was a history of injury to the side by falling. In both cases the spleen, liver and other organs were covered with gaseous bullæ; they floated high out of water and foamed. In one the abdomen was swollen very much and the veins of the abdominal viscera contained gas. An intra-peritoneal inoculation of one cubic centimeter of the blood of one of the patients into a guinea pig caused its death in thirty-six hours. Gas was present in the blood vessels, the organs and tissues were emphysematous, and after death there was a marked development of gas.

The Fluid from Ovarian Cysts as a Culture Medium

According to F. J. McCann (*Lancet*, No. 3796), the sterile and securely stoppered jars containing the last portion of cystic fluid drawn off with antiseptic precautions are kept in a cool place for 24 hours. The presence of some blood is of no moment. If a sample, when boiled in a test-tube, becomes solid, albumin is then present in sufficient quantities to prove the medium suitable. Next, the supernatant portion is drawn off with a sterilized pipette and transferred to test-tubes placed in slanting position. In 4 hours the medium will be gelatinous and of good transparency. If necessary, its sterility can be secured by placing the tubes in an incubator at 36° Cent. The gonococcus does better when little mounds of pus are placed on the medium instead of by streaks or punctures. The test-tubes are now put in a glass vessel half filled with distilled water, covered with a glass plate, and set in the incubator for 24 hours at 34° Cent. Cultures as thus obtained appear thin, scarcely visible, and greyish-yellow by reflected light; the edges diffusing into the surrounding medium not thus liquefied. If other pus organisms exist, successive re-inoculations can be made. Cover-glass preparations from same medium and stained with fuchsin, and, if necessary, verified by Gram's method, show gonococci alone present. Plate cultures can likewise be made. The author states that further experiment will demonstrate the feasibility of this medium for the culture of other micro-organisms.

Preservation of Vaccine Lymph

Dr. Geo. H. Weaver, Instructor in Bacteriology at Rush Medical College, thus summarizes a paper on "The Bacteriologic Contamination and The Preservation of Vaccine Lymph" read before the Chicago Pathological Society:

It is sufficient to state that the lymph used to inoculate the cows should be preserved as if to be used for human vaccination; that the operating room should be cared for in the same way as one used for surgical purposes; and that the seat of inoculation, the hands of the operator, and all instruments and vessels used should be carefully rendered aseptic. The vaccine sore should be made as nearly free from bacteria as possible before the lymph is collected, and the vessels in which the serum is received and the capillary tubes in which it is stored should be rendered sterile by heat. We may briefly summarize as follows:

1. Vaccine lymph in a fresh pure state almost always contains bacteria, and often pathogenic forms.
2. Pure vaccine lymph after keeping in a fluid state, or dried upon ivory points as now prepared, is unfit for use and often dangerous.
3. Vaccine lymph diluted with pure glycerin or equal parts of glycerin and distilled water, becomes sterile in about two weeks, and should not be used sooner.
4. All animals used for propagating vaccine lymph should be tested with tuberculin before being used.
5. All vaccine establishments should be regularly inspected by properly qualified officials, and samples of virus from each lot of vaccine examined bacteriologically by a competent person and the result certified before it is placed upon the market.
6. Each package of vaccine lymph should be so marked that the date on which it is taken, and, if fluid, what has been added to it, should be shown.—*Jour. of the Amer. Med. Assoc.*, Dec. 26, 1896.

THERAPEUTICS AND PHARMACOLOGY

Cocaine for Tonsillitis

A writer in the *Lancet* recently declared that one grain of cocaine hydrochlorate dissolved in a dram of water and applied to the tonsils at the early stage of acute tonsillitis, would, in the majority of cases, abort the same.

Homatropin as a Cycloplegic

Hansell (*Am. Jour. Ophth.*, XIII, No. 8) says the single superiority claimed for homatropin over other mydriatics is the speedy subsidence of the paralysis of accommodation after its use. Points of inferiority are its cost, and the number of instillations necessary and the conjunctivitis frequently produced. Homatropin *cannot be relied on* to completely paralyze accommodation in *young individuals.*

Belladonna in Bronchitis

Dr. Sydney Ringer (*Brit. Med. Jour.*) having long "regarded the mucous expectoration in bronchitis, whether viscid and vitreous or profuse and watery, as rather an increased secretion than an inflammatory product" and used tincture belladonna in 10-minim doses three times daily or oftener to check secretion and relieve an incessant and troublesome cough, now recommends it also to relieve the bronchitis produced by inhalation of ether, and further suggests that it should be given to "patients who, after aspiration, suffer from an abundant watery expectoration so profuse sometimes as to kill by suffocation."

Mercauro in Syphilis

Dr. S. C. Martin, Professor of Dermatology in the Barnes Medical College of St. Louis, has presented in the *Med. Era* a glowing account of his success in the treatment of syphilis with mercauro. He says that he has found that proto-iodide of mercury and iodide of potassium have not been successful in his hands where anemia, neurasthenia and irritable stomach exist. To increase the percentage of hemoglobin and multiply red corpuscles in such cases he finds nothing answers as well as mercauro, a combination of bromide of gold with bromide of mercury. He illustrates his experience in its use by recording the history of a case well advanced in the tertiary stage of syphilis and in which all the ordinary antisyphilitics had been tried. She reported that the disease had two or three times apparently disappeared but always recurred again. In the last recurrence mercury had been exhibited in many ways and forms but only resulted in aggravating her symptoms. The skin showed a tubercular form of infiltration ending in rupial ulcers. Cachectic and malignant tendencies were present with the certainty of all their evil sequelæ unless arrested. The patient was placed in a bath of 78° F., where she remained half an hour. The crusts were removed and dressed antiseptically. The bath was repeated daily and mercauro given in 15-drop doses three times a day. Marked improvement was visible in a week. In another two weeks the smaller tubercular formations had totally disappeared. The dose of mercauro was increased to twenty drops and with slight variations was increased for three months, when not a sign of the disease could be discovered. He finishes his paper by saying, "As a tonic alterative and antisyphilitic remedy it certainly approaches nearer than anything I have yet tried to the specific we all desire to find."

Sphaletoxine

The Berlin correspondent of the *Med. Press and Circular* reports that Jacoby, of Strassburg, at the Congress of German Naturalists and Physicians, read a note on sphaletoxine, the active principle of ergot. He has succeeded in isolating the active principle in a pure state, as a yellow beautifully crystallizable substance. In pregnant cats and dogs he succeeded with it in procuring abortion with certainty, without producing severe general symptoms. It also expedited the laying of eggs in hens. He believed it exerted a specific action on the stomach. Warm-blooded animals bore large quantities of the preparation, so that no poisonous qualities could be attributed to it.

Ichthyol and Formaldehyd in Ophthalmology

Aurelio Germani (*Gaz. de Osped.*, 1896, No. 74) has found that ichthyol in 10 to 15 per cent. ointment has a most beneficial effect in cases of stubborn blepharitis; and furthermore, has also used the remedy in collyria (1 to 3 per cent. with water), in simple catarrhal conjunctivitis, and in phlyctenular kerato-conjunctivitis, with equally good results. The remedy was well borne, caused but little smarting, and effected a rapid cure.

Formaldehyd has also been used in ophthalmological practice in Italy. Guaita was the first to demonstrate its advantages over corrosive sublimate. He used a solution of 1:2000 in phlyctenular and in marginal keratitis, as well as in conjunctivitis, accompanied by a profuse muco-purulent secretion. He highly praises the remedy on account of the valuable results secured through its means.

Mercuro-iodo-hemol in Syphilis

Dixonmann, according to the *Med. Chron.* (1896, No. 2), has made a clinical trial of mercuro-iodo-hemol in cases of squamous and papular syphilides, syphilitic iritis, and primary syphilis. The remedy was given in 2 to 3 grn. pills three times a day. It is credited with the great advantage that it can be taken for a considerable period without causing salivation, and is especially useful in anemic persons requiring mercury. The iodine contained in mercuro-iodo-hemol probably aids the mercury in its action on skin diseases; and when the squamous stage is reached, the medicament appears to act more quickly than blue pill or calomel.

Where Salicylates Are Contra-indicated in Acute Rheumatism

Jaccoud (*Sem. Med.*) holds that they are useful in the joint affections alone, not in endocarditis and other visceral complications. When lungs are involved they increase dyspnea and promote albuminuria. If headache and other cerebral symptoms are present they might cause death.

Furthermore, he maintains that the visceral affections complicating acute rheumatism are aggravated by their use, and are a sure indication that they should not then be used. He gives statistics in support of above, quoting from Hood, Coupland, Smith, and Bodt.

How to Prescribe

The following good advice on prescribing was given by Dr. J. T. Graham to the medical men of Virginia at the last annual meeting of the State Association:

"Now, before giving a drug, the physician, after being sure of his diagnosis, should have a clear conception of the effects the drug he is going to prescribe will have on the functions of the body—that is, he must know its physiological action; and then, beginning with a small dose, give the selected drug until its known physiological effect is produced—bearing in mind that the dose given in our books on materia medica is the one to be started with. So, then, when the diagnosis is made and the drug selected, give it full time to produce its effect before changing to some other remedy."

REVIEWS

Chirurgie de la Face.—By Felix Terrier, Professor in the Faculty of Paris. Pages, 303. Paris: Felix Alcan, 1897. Price, 4 fr. (80c.).

This book is not a treatise, but a description of operations, as valuable for what it omits as for what it says. For example, it omits all details of etiology and pathology, and, as a rule, does not consider the conditions for operative interference. Intelligent and comprehensive description of masterful technique seems to be its aim, entering very little into details of dressing and after-treatment, but everywhere insisting on antisepsis. It is the practical instructor familiarly conversing with his pupils, making copious illustrations, to the number of 214 in the text, take the place of the subject in the clinic. Devoting himself for the whole course of lectures to the one region of the body, he has slighted nothing in this field, which, under three large divisions, embraces: 1st, the maxillæ; 2d, the lips, cheeks, mouth, and pharynx; 3d, the nose and nasal fossæ.

In the first he devotes more attention to resections than to fractures, but recounts the historical operations, and the French surgeons associated with them, too faithfully. Partial resection of the superior maxilla seems to us too formidable for naso-pharyngeal polypi.

The commoner operations, such as for ranula, hare-lip, etc., all fully treated and helpfully illustrated, will make the second part of greater value to the general practitioner.

In the third part, adenoids and the frontal sinuses receive a proportionately fuller treatment than other subjects. The clinical aspects calling for operation in adenoids are given by way of exception. The importance of their removal is recognized as follows: "Of the four tonsils which compose it (Waldeyer's ring), the faucial tonsils have for a long time been the sole offenders, but we know to-day that hypertrophy of the pharyngeal tonsil is by far the most important." When the rarity of the conditions calling for operation on the frontal sinuses is considered in comparison with the universality of adenoids, the space devoted to the former is out of all proportion to that given to the latter; yet the importance of having full details when such interference must be made will enhance this chapter to the ophthalmologists.

The book is all it could be expected to be as the *recueil* of a course of lectures.

America's Relief Expedition to Asia Minor Under the Red Cross.—Report. Washington, D. C., 1896.

This special illustrated edition of the work of the Armenian Relief Committee, under Miss Clara Barton, contains much that is of interest to medical men, aside from the general interest that centers around such an expedition as the one she commanded, and the descriptions and pictures of the remarkable people and regions that were visited. In Dr. Harris' contribution to the report, there is a graphic description of the awful state of destitution and squalor to which the refugees were reduced. The filth, the overcrowding, and the general unhygienic conditions described are almost incredible. Their scheme to get them out of alleys, outhouses, and cow stables during an epidemic of dysentery in Zeitoun is amusing, and displayed rare good judgment on their part. There were 7000 refugees there in addition to the regular inhabitants, and all were suffering from hunger, anemia, and debility. They stopped all supplies in the town and made their distributions out in the open country, where all had to erect twig huts for themselves. As a result of this movement, he says, "the typhus cases began to recover, the new cases took on a mild form; the same could be said of dysentery. The new cases of both became less and less until they almost disappeared. The most marked improvement was the rapidity with which the daily funerals in the three burying grounds decreased. I watched these places with deep interest, for they were a thermometer to gauge the success of our work, and it was with deep gratitude to God that we saw the daily burials reduced from fifteen to none." The writer crossed the Atlantic on the return trip with Miss Barton, Mr. Pullman, and Dr. Hubbel, the three heroes of this expedition who carried the funds from our country, and was much impressed with the great value of the work they did by conversations with them. This Report they supply at thirty cents, and the proceeds of the sales over cost of publication go into the Armenian funds. Our readers can secure it from Mr. George H. Pullman, Financial Secretary of the Red Cross Society, Washington, D. C. Its purchase will aid a noble charity.

The Medical Environment.—Two Addresses: (*a*) On the Hospital Question; (*b*) On Medical Ethics. By D. Campbell Black, M.D., L.R.C.S.Edin., F.R.S.Edin., F.F.P.S.G., Professor of Physiology in Anderson's College Medical School, etc. Glasgow: Hugh Hopkins.

An examination of this small work shows Dr. Black to be a free-lance with the pen. He makes a successful and startling statistic tilt at the hospitals and dispensaries. His own experience in them is the basis of some of his most pertinent remarks. He strikes at the code of ethics in a way that we believe shows him to be an extremist. Many of his strictures are sound, but some of them few fair-minded medical men could honestly and fully subscribe to. In dedicating his work to Dr. Buchanan, his words almost border on sycophancy, and are far from agreeing in spirit with the attitude he assumes toward the upholders of a written ethical code.

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CORRESPONDENCE

Inflating the Ear

To the Editor of the A. M.-S. BULLETIN:

Every aurist is familiar with the disagreeable experience complained of by patients on the introduction of the Eustachian catheter through the nares. I seriously question, from my own observation and experience in the use of the instrument, if there was ever a patient who did not object to its use.

A few weeks ago I was treating a patient for tubal and middle ear catarrh, who also had a large exostosis on left side of septum. She was exceedingly nervous, easily frightened, and resisted all entreaties to submit to an operation for the removal of the exostosis. Of course, the left ear was the one most affected, and I found it impossible to introduce the catheter through the left nostril so as to inflate the tube and middle ear. I have never liked the post-pharyngeal catheter. It is altogether unsatisfactory and insufficient, and I could only inflate the left middle ear partially with the Politzer bag.

One day, while this patient was in the chair and I was inflating the right ear through the catheter, the idea occurred to me to try and inflate the left ear without removing the instrument. This is how I did it: Turning the beak of the catheter downward in the pharynx and across behind the posterior edge of the septum towards the mouth of the left tube and then pressing the instrument very gently against the ala of the right nostril, I found the point of the catheter entered perfectly well into the post-pharyngeal opening of the left tube. I was now able for the first time to successfully inflate the left middle ear; much to the joy of myself and patient.

Since then I have used the method on all patients where it was necessary to inflate with the aid of the catheter.

While this is not a necessity ordinarily, and has nothing to commend it in the large majority of ear cases we have to treat, except it be the convenience to the doctor and lessening of the discomfort to the patient; yet in cases similar to the one cited above it is incomparably superior to any other with which I am acquainted.

W. P. RUSHIN, M. D.

Albany, Ga.

◆

The physicians, druggists and dentists of Maine want a State prosecuting agent to see to the enforcement of the laws applying to medicine, pharmacy and dentistry. The bill that aims at the establishing of such an office was drawn up by Dr. F. Hanson. The Boston *Herald* says:

> "The first section of this bill provides for the appointment by the Governor of an officer who shall be the prosecuting agent for the State in cases of infraction of medical, dental and pharmaceutical laws. He shall serve for a term of four years. It shall be the agent's duty to investigate all violations of the laws pertaining to these professions, and he shall prosecute all offenders against these laws. He shall have the power to call upon the several county attorneys and the attorney-general for aid in prosecuting offenders, and shall himself be possessed of all the powers delegated to the sheriffs of the various counties. He may serve writs and make arrests, and shall also have the power of a coroner. For his services he shall receive no direct compensation, but shall be paid in fines collected."

If this passes in Maine and works well, it would be a good idea for other States to imitate.

American Medico-Surgical Bulletin

A JOURNAL OF PRACTICE AND SCIENCE

Issued on the 10th and 25th of the Month

Editor: ROBERT G. ECCLES, M.D.

COLLABORATORS:

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EDITOR'S NOTES

We are pleased to learn from Dr. Howard A. Kelly, of the Johns Hopkins University, that the part of the news item in our last issue relating to his retirement for a year, because of failing health, is a mistake. We took our information from an exchange. He is again at home and in active practice.

We doff our hat to Dr. Raymond for the following complimentary editorial note in the January number of the *Brooklyn Medical Journal:*

> R. G. ECCLES, M.D.
>
> THE AMERICAN MEDICO-SURGICAL BULLETIN enters upon the year 1897 with Dr. Eccles as its editor. The Bulletin Publishing Company is to be congratulated on having secured his services, and the readers of the journal may rest assured that his editorial duties will be performed with the energy and zeal which characterizes everything he undertakes.

Even laymen who come in contact with hospital doctors are beginning to find out that many of these seek positions for advertising purposes only. Mr. Munn, a Chicago Commissioner of Charities, is at present scoring the advisory staff of the County Hospital on this account. He wants the number reduced from seventy-five to fifteen, and expects to get more and better work from the smaller number.

Last November the number of deaths reported in the State of New York was the lowest for many years. The statistics for ten years back show November to be the healthiest month of the year. Its rain and sleet, mud and frost, cold and warmth, incessant change and discomfort make this fact a remarkable one.

There is no uncertain sound in the following words of wisdom found in the recent message of the Governor of New Hampshire:

> "I desire to call the attention of the Legislature to the fact that New Hampshire stands practically alone in having no statutes regulating the practice of medicine and surgery, and recommend the enactment of a law by which none but men and women reasonably well educated and having a good knowledge of medicine and surgery shall be allowed to practice in this State."

The State Board of Medical Examiners of Pennsylvania is to be commended for the stand it has taken in trying to raise the standard of medical education. At its December meeting, out of 88 applicants, 29 failed to pass. At the July meeting, the proportion that failed was very much less. This sudden leap in stringency has alarmed students and set them to work with greater vigor. It is to be hoped that examiners of other States will imitate their example.

Professor Roentgen's discovery still continues to be the most fertile one of the decade in bringing out new and valuable uses, as well as in directing investigators into new fields of discovery. The latest reports tell of its enabling us to see pulmonary lesions and pleuritic effusions in a way that throws percussion and auscultation wholly into the shade. Prof. Ch. Bouchard startled the members of the French Academy of Sciences at the meeting of December 28 by the revelations he made in this direction.

The cleaning of streets and the gathering of ashes and garbage during business hours is one of the most fruitful sources of disease. The germ-laden dust from a thousand sources of infection is forced into the air, to settle on food and clothing, to be taken into the lungs at every breath, to get into the nasal passages and the mouth and from there to find its way into the stomach, to settle in the water we drink, and, in fact, to infect everything. All such work should be done between midnight and early dawn.

Dr. E. B. Borland, of Pittsburg, Pa., says that the street cars are probably the greatest single contagion-carriers in metropolitan life. When we consider the lack of cleanliness, the crowding, and the fact that people travel in them with all manner of ailments, we cannot be surprised at this arraignment. When, for economy's sake, open cars are run long after cold weather sets in, we see in them also a cause of pneumonia. The doctor's suggestions of using disinfectants, cuspidors and proper ventilation are all sound.

We sympathize with the Washington, D. C., *Post* and those it is supporting who seek to do away with the alleys and the miserable shanties contained in them. It says:

> "These wretched slums are a menace to public health as well as to public order. They are the breeding places of disease and crime. Every noisome hovel is overcrowded. Neither decency nor sanitation is possible. The alleys swarm with criminals, actual or in embryo; the houses reek with foulness. In that rank soil and evil atmosphere only ill weeds are likely to flourish."

Every large city should be free of such places, and the Capital, in particular, should get rid of them.

The president of the Society for the Prevention of Cruelty to Animals, through the power he holds as a State officer, has made himself president of a society for the perpetuation of cruelty to human beings. He threatens to arrest anyone who tries to save a little crippled New York girl from having to go through life with an iron clamp on her leg.

"Oh for the rarity
Of Christian charity
Under the sun!"

Love for a dog is, according to Mr. Haines' code of ethics, greater than love for a suffering human being.

The *American Medical Journalist* is the appropriate title of a new, handsome, spicy little magazine designed to interest and instruct medical, pharmaceutical, and chemical publishers, editors, authors and advertisers. Small as is its size, it is great in attractive power and is sure to force into realized fact the oriental fancy about Mahomet and the mountain. Other journals may be thrust upon editors in the form of exchanges, but this one never! The editor must come to it with his dollar and his contributions. He has but to see it and his heart is with it. The bright, pleasant face of the editor of the journal of the American Medical Association graces the title page of the first number.

The Medico-Legal Society of New York has lately been discussing the responsibility before the law, of hypnotic subjects, and the opinion seems to prevail among the members that some change should be made in our laws that would hold the hypnotizer responsible instead of the hypnotized in crimes they might commit under suggestion. In all the discussions, the question did not seem to be raised of the effect of the law of natural selection. To favor the hypnotized could not in any way be deemed a favoring of society. The social good is always vastly superior to the individual good. By making every man responsible for his own acts, even if another inspires him to perform that act, the public good is best conserved.

Next to the healing of the sick, the most important duty the medical profession has always had to carry is the educating of the public in what is best for them. They always seem to fight against their own interests in everything pertaining to health. Every sanitary measure, and every step of medical progress, has had to meet solid opposition from the public at the beginning. They cannot see with professional eyes, and they invariably interpret acts that they cannot understand the motive of, from a purely selfish standpoint. They think the doctors are working solely for self-interest. If they cannot understand the matter, they think it is because the doctors do not want them to understand it. Between anti-vaccinators, anti-vivisectionists, opponents to quarantine and fighters of boards of health, we are still reminded of the fact that the spirit that forbade dissecting, and yet demanded a knowledge of anatomy, is not yet wholly dead.

The Chicago *Tribune*, in commenting on the number of suicides during the year 1896, makes this startling statement:

> "But one fact appears in the statistics again that is not explainable by any previously known laws of probabilities. Forty-five physicians took their own lives in 1894, in 1895 there were fifty-nine, and in 1896 there were forty-seven, and in each of these years the number was far in excess of the total number of suicides in the ranks of all other professions combined. In any one year this strange disproportion might be credited to some accident of fate, but now that the condition has prevailed for three years in succession, and possibly in many other years when no record was kept, it inspires a belief that there must be some definite cause for it other than coincidence."

Is this due, as the editor suggests, to the morbid frame of mind that contact with human suffering produces? Does such contact produce suicidal mania? Is it because seeing death so much in all its guises, medical men lose their fear of death? Or is it because they know how to die more easily than non-medical men do, and so give up sooner under strain of adverse circumstances?

NEWS

During 1896, Chicago did not have a single case of smallpox.

The Leadville *Democrat* says that De Beque, Col., is crying for a physician.

The Royal College of Surgeons of London has decided to confer degrees on women.

Three prominent medical men have recently received nominations as Senators of the Kingdom of Italy.

The State Board of Health of Maryland has asked for an emergency fund for epidemic or pestilential diseases.

Health Officer Lovelace, of San Francisco, Cal., says that diphtheria is epidemic there. He blames the schools for it.

A New York physician, Dr. F. W. Haviland, has added the words "Christian Scientist" over the letters "M. D." on his sign.

A terrible epidemic of smallpox is raging at Kobe, in Japan. In two weeks in December there were three hundred cases reported.

On the plea of public health a Topeka, Kan., attorney proposes to have agnostic legislators-elect enter office without kissing the Bible.

Secretary Hurty, of the Indianapolis State Board of Health, reports that in Indiana 30 persons out of every 1,000 perish from typhoid fever.

The Wyoming general hospital was destroyed by fire on January 4. The patients were removed to the Commercial Hotel, Rock Springs.

The New York Hospital lately graduated, as trained nurse, Miss Shidzu Naruse, a Japanese girl from the Missionary Hospital School at Droshishi.

San Francisco spends $10,000 per year on inspection stations, through which all food products must pass for inspection before they can be sold.

The Superintendent of Public Works of the State of New York has issued an order forbidding the emptying of sewers into the Erie and Owego canals.

The Italian Government has conferred on Dr. Behring, for his discovery of anti-diphtheritic serum, the honor of the Grand Cordon of the Crown of Italy.

Arrangements are being perfected for the forthcoming semi-centennial meeting of the American Medical Association in the new Horticultural Hall of Philadelphia.

Chicago officials are up in arms against public expectorating. Signs are to be placed in street cars, stating that those who spit there are liable to fine and imprisonment.

A colored physician, named Elmer E. Barr, has been appointed by President Healy, of the Chicago Board of Health, to a position on the Cook County medical staff.

The Medical Press and Circular says that the raw material of ichthyol, heretofore found only in the Tyrol, has recently been discovered on the Adriatic coast, and the yield of the material is said to be extremely rich.

A "Dr." Van Horn, of Chicago, was lately landed in the jail of that city for charging $15 fees for treating the sick of that intelligent city by laying the skin of a black cat upon the seat of the most distressing symptoms.

Through the efforts of Professor Fessenden and the Academy of Science and Art of Pittsburg, Pa., a complete skiagraphic outfit of the most approved kind will be placed in Carnegie Hall for the use of all reputable medical men.

The work of the new school inspectors of the city of New York was expected to begin with the year, but it was found impossible to complete the necessary details then. The Health Commissioners say they will be at work on the first of February.

The provisional program of the ninety-first annual meeting of the Medical Society of the State of New York, shows a list of papers that is both large and interesting. The meeting will be held in Jermain Hall, Albany, on January 26, 27, and 28.

The physicians at the City Hospital of Cincinnati have been using erysipelas toxin, and the Associated Press telegraphs over the country that "the physicians engaged in the undertaking are congratulating themselves in having accomplished a startling revolution."

The Supreme Court of Missouri has decided that anyone, however ignorant he may be, can practice medicine in that State if he only holds a diploma. The State Board of Health has been compelled to issue a certificate to an applicant whom they deemed too ignorant and unsafe to let loose there.

In the State of Connecticut the law permits licensed pharmacists to prescribe familiar remedies to customers. The *Hartford Times* of January 5 says that the men who fail to pass the medical examination take out licenses as pharmacists and so get an opportunity to practice.

The surgeons of St. Louis are talking about starting a society exclusively for surgeons. This came about through some of the general practitioners of the medical society objecting to the surgeons consuming too much time in presenting papers and specimens on their special branch of study.

Dr. Scheube, of Kioto, Japan, lately suggested that there must be some anatomical reason for the great ability of the Japanese to digest rice as compared with Europeans. Professor Taguchi, acting on this, measured the intestines of twenty-five cadavers, and now he declares that the European intestine is only about two-thirds as long as is the Japanese.

The State Board of Health of Indiana has framed a health law for that State, patterned after those of New York, Michigan, Massachusetts and Pennsylvania, which they have presented to the Legislature. They say it will save the State five million dollars per year, and as an evidence of their good faith in the matter, point out the fact that it will legislate its promoters out of office.

Frederick Stearns & Co., of Detroit, have sent out a very handsome calendar for 1897. It is a very successful result of what is called the three-color process. The picture—which is the principal feature of the calendar—is a reproduction of a painting by Carl Goebel, of Munich. On New Year's Day the house of Frederick Stearns & Co. celebrated the forty-second anniversary of its foundation.

In Wisconsin, anyone having a diploma from an incorporated medical college may practice as a physician, and any three persons may incorporate themselves as a medical college and issue diplomas, without any instruction, and the diplomas cannot be questioned. To improve on this state of affairs, and to close up the Milwaukee fake diploma mills, a new bill is to be presented soon to the Wisconsin Legislature for their approval.

Health Commissioner Kerr, of Chicago, has written a letter to the president of the Board of Education of that city, warning him of the dangerous condition of the water supplied to the children, and threatening to shut off the supply and thus necessitate the closing of the schools unless something is done to improve matters. He holds that the children are all in danger of taking typhoid fever. The *Inter-Ocean* advises the adoption of some plan for boiling water.

San Francisco has a secret medical society organized on the plan of circles of nine. Every member is known by a number and not by his name. They propose in this way to fight all unprofessional conduct among medical men by unitedly using their influence against wrongdoers. No advertising of any kind, covert or otherwise, is to be tolerated. Non-medical persons who antagonize what is to the best interests of the public health likewise are to be dealt with by them.

The Shelby County (Ind.) Medical Society, at its last meeting in Shelbyville, adopted a resolution in regard to the recent health rules of the Indiana State Board of Health, in which the latter body was severely censured for "assailing the dignity of the medical profession, and seriously interfering with its sacred prerogatives, by recommending, in their official capacity, a certain preparation, now *sub judice*, and by saying to the physicians of Indiana that they should always and under all circumstances use this preparation."

The New York County Medical Society has adopted a resolution directing the president to appoint a committee to ask a hearing before the Greater New York Commission. The society protests against the proposed clause in the Greater New York charter, which the members construe as a discrimination against the medical profession, in the selection of a chairman of the Health Commission, who cannot be a physician. The committee was empowered to fight the matter before the Legislature, in the event of failure before the commission.

NATIONAL MEDICAL SOCIETIES

Annual Meetings

Name of Society	Place	Time	Secretary	Residence
American Academy of Medicine	Philadelphia, Pa.	May 29-31	Dr. C. McIntyre	Easton, Pa.
American Assoc. Genito-Urinary Surgery	Washington, D. C.	May 4-6	Dr. W. K. Otis	New York City.
American Assoc. Obstetrics and Gyn.	Niagara Falls, N. Y.	Aug. 17-20	Dr. W. W. Potter	Buffalo, N. Y
American Climatological Association.	Washington, D. C	May 4-6	Dr. G. Hinsdale	Philadelphia, Pa.
American Dermatological Association	Washington, D. C.	May 4-6	Dr. J. T. Bowen	Boston, Mass.
American Electro-Therapeutical Assoc.	Harrisburgh, Pa.	Sept. 21-23	Dr. M. Einhorn	New York City.
American Gynecological Society	Washington, D. C.	May 18-20	Dr. J. Riddle Goffe	New York City.
American Laryngological Association	Washington, D. C.	May 3-7	Dr. H. L. Swain	New Haven, Conn.
American Laryngological, etc., Society	Washington, D. C.	May 4-6	Dr. R. C. Myles	New York City.
American Medical Association	Philadelphia, Pa.	June 1-4.	Dr. W. B. Atkinson	Philadelphia, Pa.
American Neurological Association	Washington, D. C.	May 4-6	Dr G. M. Hammond	New York City.
American Ophthalmic Society	Washington, D. C.	May 4-6	Dr. S. B. St. John	Hartford, Conn.
American Orthopædic Association	Washington, D. C.	May 18-21	Dr. J. Ridlon	Chicago, Ill.
American Pædiatric Society	Washington, D. C.	May 4-6	Dr. F. A. Packard	Philadelphia, Pa.
Army and Navy Medical Association	East St. Louis, Ill.	May 18.	Dr. E. P. Bartlett	Springfield, Ill.
Mississippi Valley Medical Association	St. Paul, Minn.	Oct. 19-22	Dr. H. W. Loeb	St. Louis, Mo.
Missouri Valley, Medical Society of	Lincoln, Neb.	March 18	Dr. D. Macrae, Jr.	Council Bluffs. Ia.
Southern Surgical and Gynec. Assoc.	Nashville, Tenn.	Nov. 10	Dr. W. E. B. Davis	Birmingham, Ala.
Tri-State Medical Society	St. Louis, Mo.	April 6-8	Dr. G. W. Cole	St. Louis, Mo.
Western Ophthalmological, etc., Assoc'n	St. Louis, Mo.	April 8-9	Dr. H. Foster	Kansas City, Mo.

STATE MEDICAL SOCIETIES

Annual Meetings

State	Place	Time	Secretary	Residence
Alabama	Selma	April 20–23	Dr. J. R. Jordan	Montgomery.
Arkansas	Little Rock	May 12	Dr. F. Visonhaler	Little Rock.
California	San Francisco	April 20–22	Dr. W. W. Kerr	San Francisco.
Connecticut	Hartford	May 26, 27	Dr. N. E. Wordin	Bridgeport.
Georgia	Macon	April 21	Dr. R. H. Taylor	Griffin.
Idaho	Boise	Sept. 9, 10	Dr. W. D. Springer	Boise.
Illinois	East St. Louis	May 18	Dr. J. B. Hamilton	Chicago.
Iowa	Marshalltown	May 19–21	Dr. J. W. Cokenower	Des Moines.
Kentucky	Owensboro	June	Dr. S. Bailey	Stanford.
Louisiana	New Orleans	May 4	Dr. P. B. McCutchon	New Orleans.
Maine	Portland,	June 2–4	Dr. C. D. Smith	Portland.
Maryland	Baltimore	April 20–23	Dr. W. G. Townsend	Baltimore.
Massachusetts	Boston	June 8, 9	Dr. F. W. Goss	Roxbury.
Michigan	Grand Rapids	May	Dr. C. H. Johnston	Grand Rapids.
Minnesota	Mankato	June 16–18	Dr. I. Donnelly	St. Paul.
Mississippi	Jackson	April 21	Dr. J. R. Tackett	Meridian.
Missouri	St. Louis	May	Dr. J. N. Jackson	Kansas City.
Nebraska	Lincoln	May 18–20	Dr. G. H. Simmons	Lincoln.
New Hampshire	Concord	May 24, 25	Dr. G. P. Conn	Concord.
New Jersey	Cape May	June 22	Dr. W. Pierson	Orange.
New York (Assoc.)	New York City	Oct. 12–14.	Dr. E. D. Ferguson	Troy.
New York (Soc.)	Albany	Jan. 26–28	Dr. F. C. Curtis	Albany.
New Mexico	Albuquerque	May 12	Dr. H. J. Abernethy	Socorro.
North Carolina	Elizabeth	June 8	Dr. R. D. Jewett	Wilmington.
Ohio	Cleveland	May 19–21	Dr. T. Hubbard	Toledo.
Ontario.	Toronto	June 2, 3	Dr. J. N. E. Brown	Toronto.
Oregon	Portland	June 8–9	Dr. W. F. Amos.	Portland.
Pennsylvania	Pittsburg	May 4	Dr. W. B. Atkinson	Philadelphia.
Rhode Island	Providence	June 3	Dr. F. L. Day	Providence.
South Carolina	Charleston	April 22	Dr. W. P. Porcher	Charleston.
South Dakota	Mitchell	June 9	Dr. W. J. Maytum	Alexandria.
Texas	Paris	April 27	Dr. H. A. West	Galveston.
Utah	Salt Lake	Oct. 5, 6	Dr. J. N. Harrison	Salt Lake.
Vermont	St. Albans	Oct. 14, 15	Dr. D. C. Hawley	Burlington.
Washington	Spokane	May	Dr. J. M. Semple	Medical Lake.
West Virginia	Charleston	June	Dr. G. A. Aschman	Wheeling.
Wisconsin	Racine	May 5	Dr. C. S. Sheldon	Madison.

OBITUARY

Prof. William H. Pancoast, of the Philadelphia Medico-Chirurgical College, one of the best-known surgeons in America. He was born in Philadelphia in October, 1835. He was the son of Joseph Pancoast, the distinguished surgeon, whom he succeeded at Jefferson College. Dr. Pancoast was educated at Haverford College, graduating in 1853. He at once matriculated at Jefferson Medical College, and graduated in 1856.

Dr. Pancoast was a member of almost all of the larger clubs of the city, including the medical organizations. He was President of the County Medical Society in 1869, a member of the Academy of Natural Sciences, of the College of Physicians, of the State Medical Society, of which he was Vice-President in 1870, and a Vice-President of the American Medical Society about 1884. Dr. Pancoast was a delegate to the International Medical Congress in 1876, and to a score of congresses and associations both in this country and in Europe. He also was a member of many foreign medical and surgical societies.

One of the most notable cases with which Dr. Pancoast was connected was the autopsy of the famous Siamese twins. In 1874 he went to Mount Airy, N. C., where the twins had died, and procured the bodies for the purpose of scientific examination. He made the autopsy at the College of Physicians, Thirteenth and Locust streets, and his remarkable exposition at the autopsy added much to his already widespread fame.

Prof. Theodore G. Wormley, of the Medical Department of the University of Pennsylvania. Professor Wormley was born in Wormleysburg, Cumberland County, Pa., in 1826. He graduated at the Philadelphia Medical College in 1849, began the practice of medicine in Columbus, O., in 1850, became Professor of Chemistry in the Capital University in 1852, Professor of Chemistry and Toxicology in Starling Medical College in 1854, Professor of Chemistry and Toxicology in the Medical Department of the University of Pennsylvania in 1877.

Dr. Wormley was, in 1867, appointed State Gas Commissioner of Ohio, which position he held for eight years, and in 1869 was appointed State Chemist of the Ohio Geological Survey, which position he held until the completion of the survey in 1874. He was one of the Vice-Presidents of the Centennial of Chemistry, held in 1874 at the former home of Joseph Priestley, in Northumberland County, Pa., and in 1876 delivered the address on "American Chemical Contributions to the Medical Progress of the Century" before the International Medical Congress in Philadelphia. In 1870 the honorary degree of Doctor of Philosophy was conferred upon him by Dickinson College, and during the same year the honorary degree of Doctor of Laws was conferred upon him by the Marietta College, Marietta, O., and in 1877 the honorary degree of Doctor of Philosophy was conferred upon him by Pennsylvania College, Gettysburg, Pa.

Dr. Wormley was a member of many scientific bodies, among them being the American Chemical Society, of which, in 1879, he was one of the Vice-Presidents; the American Philosophical Society, the American Meteorological Society, and a corresponding member of the New York Medico-Legal Society. He was also an honorary member of the Society of the Alumni of the Department of Medicine of the University of Pennsylvania. He was a Fellow of the College of Physicians of Philadelphia, and a Fellow of the American Association for the Advancement of Science, and also a Fellow of the Chemical Society of London.

PUBLISHERS' DEPARTMENT

CEREBRAL SYPHILIS – DIAGNOSIS AND TREATMENT

Dr. Daniel R. Brower, in the *Peoria Med. Jour.*, after detailing the various diagnostic points, outlines the treatment, insisting this should be heroic once the diagnosis has been firmly established. The iodides should be pushed to the point of toleration, and mercury should be given hypodermatically in large doses. While pursuing this vigorous course of mixed treatment, judicious tonics and easily digestible food will materially improve the patient.

Galvanization of the brain is a valuable adjunct to the treatment of cerebral syphilis. Galvanic electricity is not so much used as it would be, if we had appliances more reliable than the ordinary galvanic battery for its administration, and electricians have been for years endeavoring to construct an instrument that would properly regulate the commercial current for medical purposes; there has been no difficulty in diminishing amperage, but to diminish and increase amperage and voltage, as is done in the chemical battery, *pari passu*, has been the difficulty. This, the doctor thinks, has been overcome by Dr. R. V. Wagner, of Chicago, and he states that his instrument, manufactured by the Electro-Medical Company, of Chicago, controls the incandescent current. With this any physician who has access to the incandescent current can administer galvanism with as much satisfaction and precision as with the best chemical battery.

PILLS UNDER THE HAMMER

Some very interesting experiments and startling results on the hardness of pills are reported by a progressive Brooklyn pharmacist. He tests the pressure which various manufactured pills and compressed tablets will withstand, by placing one on a pine board and then placing a block upon the pill and striking the latter with a hammer. He found in most cases, when the pill experimented on was a mass pill, that it was driven deeply into the board, with little or no injury to the pill or its coating. He procured samples from eight different manufacturers of different kinds of pills, making in all twenty-six tests. Out of this number, twenty-two were driven into the wood so deeply that they remained there. Of the remaining four, one was a mass pill which flattened out readily; the other three were reduced to a powder with slight pressure. The author shows that most manufacturers do not exercise sufficient care in selecting a suitable excipient for making up formulæ which is intended to be kept for a long time. The Upjohn Pill and Granule Co. are giving wide circulation to the article.

A NASAL DOUCHE

Below we present an illustration of the method of using the Bermingham Douche and solution of Glyco-Thymoline (Kress) in the treatment of catarrhal conditions. With the head thrown well back, every part of the nasal cavity is thoroughly irrigated and cleansed.

As no pressure is possible with the Bermingham Douche, the danger attending the use of the old-fashioned douche is avoided. Kress & Owen Company, New York, are the manufacturers.

HYDROZONE IN GASTRIC AND INTESTINAL DISORDERS

Dr. John Aulde, M. D., of Philadelphia, in the *N. Y. Med. Jour.*, directs attention to the value of hydrogen dioxide in gastric and intestinal disorders. In gastritis, says the doctor, its effect is immediate.

As hydrozone is a more concentrated product, the doctor states this latter remedy should have the preference.

In gastritis, either acute, subacute, or chronic, the inflammation is attended with an increased output of mucus. A small quantity of hydrozone, one part to thirty-two parts of boiled or sterilized water, destroys this objectionable mucus, and the contents of the stomach are promptly discharged. The patient should take at least half an hour before meals from 2 to 4 oz. of diluted hydrozone (one to thirty-two) and lie on the right side so as to facilitate the action of the stomach in discharging its contents. The food should be easily digestible, liquids being preferred until the active symptoms have subsided. Starchy food must be thoroughly masticated, to secure the action of the salivary secretion and lessen the tendency to fermentation in the stomach. After taking a meal, medicinal doses of glycozone will favor osmosis, and assist in re-establishing the functional activity of both the peptic and mucous glands of the organ.

In the treatment of cholera infantum, typhoid fever, and Asiatic cholera, the same general plan should be adopted in dealing with the stomach. In addition, the same solution is used as an injection into the lower bowel, as high up as possible.

When deemed advisable, the solution introduced into the lower bowel may be combined with large quantities of either hot or cold water, which enables us to obtain the benefits of irrigation in addition to the antiseptic effects.

NEUROSINE VS. MORPHINE

Physicians should be very circumspect in prescribing any preparation that contains morphine if the patient can have the prescription repeated. Many sedative remedies contain morphine or opium in some form without having the fact made evident in the formula. What danger lurks in this practice requires no elaboration. The Dios Chemical Co., of St. Louis, recommends its product Neurosine, as an excellent and efficient neurotic, producing a natural sleep, and in which there is no morphine. The complete list of ingredients is published as follows: Chemically pure Bromides of Potassium, Sodium, Ammonium, Zinc; Extracts of Henbane, Belladonna, Lupulin, and Cascara Sagrada; Aromatic Elixirs.

LIFE OF SIR ASTLEY COOPER

We have received from the Norwich Pharmacal Co., Norwich, N. Y., a very entertaining and interesting brochure with the above title, written by the editor of the *Medical Muse*. It is replete with anecdotes, more especially of the celebrated surgeon's boyhood days, and will well repay a perusal, not only for the vivid descriptions of the manners and dress of a surgeon ninety years ago, but incidentally to the discovery by Cooper of the virtues of the healing properties of alum. Unguentine, made by the Norwich Co., is a modification of his celebrated formula. The brochure contains a portrait of Cooper, after the original painting by Sir Thomas Lawrence, President of the Royal Academy. The firm mentioned will send it to any physician on request.

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EDITORIAL

MICROBIC VIRULENCE

WHILE morphological considerations are the basis of scientific classification in nearly every department of biology, an exception, apparent or real, seems to exist in bacteriology. There form seems to count for but little, in the direction in which medical men and bacteriologists are most highly interested. Whether a micro-organism shall be classed as pathogenic or non-pathogenic is not and cannot be determined by form. We can tell poisonous aconite from edible lettuce, and the dangerous tiger from the harmless deer, by a comparison of their forms, but we cannot tell a dangerous or virulent microbe from a harmless one in any such manner. Exactly the same forms appear among the benign and the virulent. There are pathogenic cocci and harmless cocci, pathogenic bacilli and harmless bacilli, and pathogenic spirilla and harmless spirilla. Even in size and structure the same correspondence seems to obtain between them. By no tests of staining or methods of culture can they be differentiated. There are benign forms answering to nearly every known pathogenic form. In harmless quietude within the mouths and nasal passages of healthy people can be found forms identical with those that have been declared pathogenic. In some cases this is probably due to the resisting power of the individual, but not in all.

Bacteriologists have long known that the condition of bacterial virulence exists in all degrees from relative harmlessness to intense harmfulness. They have found, by studying the facts, that the pathogenic character of a microbe is not an inherent one, and only develops under a definite set of relations. They have again and again shown their power to control this, by attenuating virus and finally developing non-pathogenic from pathogenic forms. The exaltation of virulence has, however, proven a much more difficult problem to solve, so that along this line progress has been very slow. Nothing in bacteriology can be of greater importance to mankind, since on this knowledge depends our power to acquire the mastery of a multitude of dangerous ailments. It has been attacked again and again, and many ingenious hypotheses have been advanced as to its cause, but so far we are yet groping in the dark. Metschnikoff's experiments in the study of cholera, the methods pursued in the production of toxins and antitoxins, the serum reaction in typhoid fever and other important additions to our knowledge, have resulted from the study and fully compensate for all the labor it has cost. It has been found that the ordinary bacteria of decomposition sometimes take on malignant characteristics in deep-seated suppurating wounds. It has likewise been learned that the presence of a poisonous alkaloid like atropine in toxic amount gives to benign forms noxious qualities when introduced into the body of an animal. It is known that contagious and infectious diseases come and go like the rhythm of a wave, or ebb and flow like the movement of the tide. They sink from excessive virulence to mildness, and finally disappear to arise again at some future time through mildness to virulence, when they again go from region to region like the circling of a wave. At present the whole world is anxiously watching the possible movements of such a development in the great bubonic plague now central in Bombay, India. It is being studied in every detail as it never was studied before. In it the conditions for research looking toward the discovery of the exact method by which virulence develops, are unique and promise revelations of great value toward the elucidation of this problem.

In June, 1894, the Japanese bacteriologist and former pupil of Koch, Kitasato, found in the blood of Chinese victims to this disease at Hong-Kong a peculiar-shaped bacillus. On making pure cultures of it and inoculating susceptible animals, they were found to develop all the specific symptoms of plague. It is an immobile, short bacillus that varies somewhat in size according to the method of staining, is surrounded by a large capsule, possesses slightly rounded ends that in connection with a clear central zone or band give it the appearance of a diplococcus, develops in granular circumscribed colonies, and does not liquefy gelatin. It stains readily with aniline dyes, but if treated by Gram's method it does not retain the coloring matter. It can be cultivated easily on any of the ordinary culture mediums. It has been found in rats, mice, pigeons, flies, dogs, pigs, and other animals stricken with plague. The first confirmation of its existence after its discovery, was made by Yersin of the Pasteur Institute at Saigon. When he found it he did not know that Kitasato had already discovered and reported it. The fact has frequently been noted that when a virulent type of scarlet fever or smallpox is raging in one neighborhood, a mild form will be found in another. This state of affairs obtains in India to-day regarding the plague. While the malignant form is devastating Bombay, Calcutta suffers from a mild type that is little if any more virulent than mild grippe. A bacteriological examination of the blood in these cases has shown a diplo-bacteria like that of Kitasato. Professor Cunningham points out that it lacks the infective power of the one from malignant plague, but this is just what might be expected *a priori* from a study of the facts. Drs. Lawson and Takaki, during the Hong-Kong epidemic, found that the soil of the region contained a bacillus exactly like that found in the blood of the victims of the plague, but it lacked all virulence. Dr. Yersin has discovered that his cultivations of plague bacilli are at first exceedingly virulent and will infect and kill susceptible animals, but after several generations of them have been produced they at last lose all pathogenic qualities and become as harmless as those found in the soil. Each succeeding generation has less and less potency, so that they can be had in every degree of attenuation. As an examination of the feces of the victims of the disease has shown the presence of multitudes of diplo-bacteria, and as the soil is, in Oriental countries, the receptacle of excreta, it is quite probable that those found therein are the progeny of those discharged by the sick. If we inquire after the probable cause of this attenuation in laboratory culture and in the soil, we see two distinct lines to investigate. Either it is likely to be due to a lack of vitality in the microbe, or to suspension of its activity in the production of its poison, from lack of use. Dr. Yersin tells us that the signal of the suspension of its virulence is found in its increased rapidity of growth. This would seem to indicate that not lack of vitality, but lack of use caused this suspension. If this is so, then the restoration of this power should be brought about by conditions of an opposite character.

We know that in all progress, where there is a struggle for existence, an advantage gained by one side necessitates the acquiring of a corresponding advantage by the other under penalty of extinction. We see this illustrated in warfare. Every gain made in the improvement of ordnance requires a balancing gain in the methods of protecting forts and ships. When the latter are again able to resist the ordnance, then a fresh gain is sure to be made by the latter. Is it not just possible that in the warfare between phagocytes and bacteria, or coincident with the production of toxins and antitoxins of gradually increasing power, there is a corresponding increase in the intensification of malignancy? In all very severe attacks of plague, the first warning the inhabitants have is the appearance in their houses of multitudes of diseased and dying rats. Since the rat is a very susceptible animal to the plague, may it not be that in its blood exists the culture field for the development of malignancy? Beginning in a mild form, the bacillus may in its blood acquire virulence though the battle being evenly matched. A test of this could easily be made. Enough of the innoxious or nearly innoxious bacilli could be inoculated to overcome their slight power of resistance. Successive repetitions from animal to animal should show an increase in power if the inference is a sound one. Such experiments might also be tried under a restricted oxygen supply to determine how far Salmon's hypothesis accords with the facts in this direction.

OUR IMMUNITY FROM PLAGUE

WHILE all Europe is watching with unfeigned dread the progress of the Bombay epidemic of malignant polyadenitis,[1] we in America have only that vague dread that comes from the uncertain but improbable. Since the discovery of America there have been many epidemics of this terrible scourge in different parts of Europe, but at no time has it succeeded in crossing the Atlantic to our eastern shores, or the Pacific to our western. In 1852 it succeeded in reaching as far across the Atlantic as the Canary Islands, and lately it crossed the Chinese Sea to Formosa. Encouraging as this seems, much of its satisfaction is stolen from it by the fact that modern steamships and modern commerce have annihilated distance, making Europe and even India our next-door neighbors as compared with what they were less than half a century ago. While wide oceans once were an effectual barrier to its progress, we are not so sure that they still continue to be such. That they aid in our protection cannot be doubted, but to what extent or how they do so is uncertain. The antiseptic action of long exposure to sea air and sea conditions may degrade if it cannot destroy the virulence of the microbes. That even short distances by sea possess a marked staying power to the plague, is seen in the fact lately pointed out by James Cantlie, M. B., in his lecture, in London, on "The Spread of Plague." The distance from Hong-Kong to Macao is thirty miles. It took ten months to carry the disease from the one port to the other, although steamers, Chinese junks, and fishing boats traveled daily across and carried thousands of fleeing citizens who were seeking to escape its ravages. Other cases of the same kind have been observed in the past. In the Macao case it is not even sure that it went by sea at all, some persons believing that the virus was carried overland from Canton, or that it spread like a ringworm through the soil from this place. In the face of such facts as these, there need be no great fear on our part of its troubling us. If it took so many months to go so short a distance, when no artificial obstacles of any kind were placed in its way, and when conditions were such as to favor its transmission to a remarkable degree, it is not at all likely that it will find its way across the Atlantic in other than isolated and non-malignant cases. In London two bad cases have reached the Seaman's Hospital. In Marseilles, several doubtful cases have occurred among sailors direct from India. No doubt, Macao had such cases long before there was any sign of its becoming epidemic.

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[1] This exceedingly appropriate name has been given to the bubonic plague by James Cantlie, M. B., F. R. C. S., of Charing Cross Hospital Medical School, London.

A study of the means by which it is transmitted from person to person will shed some light on the way it travels from place to place. In the very height of its ravages, doctors come and go without being attacked. Nurses that refrain from close personal contact with patients do not suffer. The handling and fondling of sick babies or children gives it. As in tuberculosis, the first and in some cases the only immediate victims are parents, children, husbands, wives, uncles, cousins, aunts, grandparents, or lovers—all those that are likely to come in close, continuous personal contact. Many cases, of course, occur where it is difficult or impossible to trace their source. These are pretty likely to have been produced by some infected article of food. In rat-eating China, or famine-stricken India, where the very hungry might be expected to eat rats, it would, of course, be a simple matter to trace the origin of the disease, knowing as we do that these rodents are among the first victims. Pigs that have had their freedom and in their hunger devoured rats, mice, or other infected animals that have died of plague, would become disseminators of the disease among all except those whose religion forbade their eating pork. Pigeons that when hungry have developed carnivorous traits, or that have sought food that has become mixed with the feces of victims, will, when eaten, give the disease. Flies that have swarmed among filthy discharges and then walked over the food people have been eating, would likewise give it. It is quite likely that barnyard fowl may take the disease and transmit it, but there is no evidence of such cases. The diplo-bacterium has been found in the feces, in the blood, and in the mouths of victims. It develops on contact with moist mucous membranes, by contact with abraded surfaces, or by being swallowed in food. Some soldiers that were set to work cleaning out an infected and filthy abode, after the death of its inhabitants, were attacked. The dried feces in the dust-laden air gained access in sufficient amount to give them the disease. Here we see how the immunity of the individual may play an important part. A definite amount of the virus is evidently needed to overcome the power of resistance each person possesses. The long contact necessary in most instances is probably due to this. It takes such time for them, under such conditions, to take in enough germs to give them the disease in its virulent form. The multiplication of cases in narrow, close quarters increases the amount that is likely to be absorbed in a given time, and likewise increases the virulence of the germs. When no pains are taken by them to remove from their rooms excreta or filth of any kind, this, too, multiplies the chances of producing violent instead of ambulant cases. To force cleanliness, to scatter the victims into well-aired rooms away from the healthy, and to avoid close personal contact, seem to be nearly all that is necessary to keep this disease from spreading in its malignant form. Those that fly from stricken cities and scatter themselves far and wide, evidently weaken the contagion by the act of diffusion alone. Pestis minor occurs in their wake, but for not long periods of time do they, by concentrating themselves amid filth again, seem to be attacked by the malignant form. In all the European epidemics of the past, filth and crowding seemed to be at the bottom of the trouble. The chronicles of those times show that England was in a horrid state of filth. The poor were huddled together in houses with single rooms. The bare earth constituted their floors. They had no closets and attended to the wants of nature in their living apartments, merely covering up the filth with straw. They stood, sat and slept on this straw. Soldiers sometimes were sent to clean their floors for the sake of the nitrogenized filth, from which they extracted nitrates to be used in the manufacture of gunpowder. Such were the horrid conditions that gave rise to the fierce attacks of black plague. We have nothing like it in America. The worst quarters of New York or San Francisco are far above such conditions.

QUARANTINE PROTECTION

IN view of the fact that there is apparently so little danger of the United States ever being attacked with malignant bubonic plague, it may seem useless for us to go to any great expense in quarantining our ports in any rigid manner against it. To come to any such conclusion would be dangerous and fallacious. Without such care we are quite likely to find ourselves overrun with pestis minor. Indeed, with all the care that the present excitement is likely to produce, such cases may escape detection and get here in spite of us.

Although this disease is not a severe one, and, under American conditions, not likely to develop into anything very malignant, yet it is to be dreaded and carefully guarded against. The apparently well, and not the sick will bring it.

Those that are sick and typical cases of the disease will be detained at quarantine until well, and, we hope, until they are absolutely free from diplo-bacteria. Those that appear to be well are likely to pass unchallenged, although in a condition to scatter the disease. Ships directly from India to New York are very likely to carry just such cases.

The Mecca pilgrimage, that has lately begun, is bound to scatter such cases through Europe, unless extraordinary care is taken to guard against it. Thousands of Hindoo Mussulmans will meet other thousands from Turkey and the marts of various European cities. It is wholly improbable that there should not be a multitude of cases of pestis ambulans among the pilgrims. Others, by personal contact, will take it. Can the Egyptian Government guard against this? We fear not. Rogers Pasha and Dr. Bittar are, no doubt, able men and will do all in their power to avoid it, but we fear for the consequences. It is a very great pity that Dr. Hagel, of Austria, did not have his way when, at the International Sanitary Council at Constantinople, he proposed to prohibit all Hindoos from taking part in the pilgrimage. It is a crime to let them, religion or no religion. The English Government should have felt in duty bound to forbid it.

All the European governments are adopting measures to protect their own frontiers. Egypt has restored the regulations of 1878.

Passengers on all ships from India that design landing there will have all their belongings disinfected and be detained two days before being permitted to go ashore. All ships going through the Suez Canal will be kept under strict quarantine during their journey. Those that have no medical officer, nor means of disinfecting, will be detained long enough to see that no cases of disease are on board or likely to develop, and until everything is disinfected. Infected ships in which a case has occurred within nine days will have their passengers removed and isolated—the sick, if any are still present, and the well being separated. They will be detained eleven days from the contact with the last case, and the ship and all it contains will be disinfected. None of these measures duly considers mild cases, in which the patients are able to be around. These are, therefore, the most likely ones to carry the disease.

The ordinary methods of quarantine-disinfecting are a perfect farce. A good illustration of this was shown at Hong-Kong, where the only European civilian who took the plague was the man who mixed and prepared disinfectants for public use.

The Italian Government has called an international conference at Rome to consider measures to prevent the plague from invading Europe.

Russia has sent its health officers to Persia to watch the progress it may make in that direction, and as soon as it appears, to stop all travel across the Siberian frontier. The Marine Hospital Bureau at Washington has renewed the cholera restrictions against plague-infected ports. Health Officer Dr. A. H. Doty, of the Port of New York, has been in Egypt studying the method of gathering, boiling, and disinfecting rags designed for this country, and observing the working of the Egyptian quarantine against India. He has left a sentinel at Suez, whose duty it is to cable to him when an infected vessel from India arrives at the canal.

There seems to be considerable fear of plague being brought to this country in rags. While there is, of course, some slight danger in this respect, it is quite remote. Rags that have been covered with feces from plague patients would certainly be dangerous, but rags that are at all clean cannot be seriously considered a great menace. The clothes have been taken from those who have died of plague, and worn by the healthy without producing any appreciable ill effects. A French physician is reported as having worn the dirty shirt of such a victim next his skin for two days, in defiance of the fear of his fellows, who thought it a dangerous proceeding. It is all right, however, for Dr. Doty to guard us against every possible means by which the contagion can reach our shores.

In all the quarantine regulations we have heard of from him or others, we have seen no description of any that will rid Indian ships of rats or force them, before starting from India, to adopt some plan to kill every rat on board. As these animals are known to be susceptible to the malignant plague, it is reasonable to suppose that they can have the mild form also. Although they do not, as in bad attacks, come forth voluntarily to die, they may be down in the holds carrying the germs of Kitasato to our country. The floating disinfecting plant of the Port of New York is, without doubt, the best yet devised, and will do a world of good in its way; but if we had twenty Wadsworths, they could not protect us against the two most menacing features we have to fear. The rats would first have to be caught and then placed in the disinfecting-chamber, and the disinfecting of the clothes of a man, woman, or child with pestis ambulans will not rid their blood or intestinal tracts of the dreaded germs.

AMONG THE EDITORS

AN IMPORTED CUSTOM

A custom which, although said to be common enough in Europe for many years, has only lately reached America, is that of hotel "privilege" as applied to doctors. It has always been the case in the larger hotels that the boot-black, the proprietor of the news-stand, and the cigar man, paid the hotel for the privilege of conducting their business. The custom has now been extended to the hotel doctor.

The doctor attached to one of the newest and largest Chicago hotels lately left it, and it is said owed the hotel some $1500. The proprietor was apparently not backward in taking steps to recover his loss, and as there were several applicants for the vacancy, he placed the privilege at $500 a year, for not less than five years; the $2500 to be paid in advance. As the place was not put up at auction, the first comer, a pleasant young gentleman, procured the funds and became installed in the hostelry, and now watches with complacency the mild envy of his less fortunate rival. It is to be hoped that the leveling tendency of the times will not progress so far that the social standing of the hotel doctor may be placed on the same footing with that of his privileged associates, the boot-black and the cigar vendor. —*Jour. Amer. Med. Assoc.*

DIPHTHERIA ANTITOXIN RELATED TO STATISTICS

We have not a word to say in condemnation of the antitoxin treatment. On the contrary, we believe that it will take its place as the scientific treatment of the disease as soon as the truths concerning it are properly placed before the profession. We do maintain, however, that its claims have not been adequately investigated. Many of the statistics offered in its behalf and many of the reports against it are not scientific, are not reliable. They are faulty and may be misleading. A matter so important, involving the question of life or death, and possibly the fate of a valuable therapeutic agent, must be settled with rare care and good judgment—in fact, cannot be determined by those who are biased, however unintentionally, in behalf of their own justification either in the use or non-use of the method.—*Med. World.*

THE REVIEWING OF MEDICAL PUBLICATIONS

The mode of criticism in the medical journals of to-day is unsatisfactory. In many respects it is unprofessional and unjust to both author and reader. There are not so many meritable medical publications that each can not be thoroughly, but concisely, and intelligently and dispassionately reviewed. A glance at the current review columns shows that this is not the present status of affairs.

Many good books are inadequately noticed and many inferior works are given undue prominence by reasons of personal influence or publisher's advertisement. Much available space is wasted by the reviewers in the exposition of personal knowledge and judgment.

Every author declares the exact object and particular sphere of his book, either on his title-page or in his preface. It is the reviewer's duty to reiterate this, and then to briefly and honestly tell whether and why the volume in question does or does not adequately fulfill its mission. In addition to this a candid personal judgment on the innovations or leading features of the work is always desirable; but this does not mean that severe terms of condemnation are necessary. There should be no phraseology calculated to ridicule a serious and honest man, thereby injuring the sale of his book and preventing full dissemination of medical thought. It should be remembered that some of the most important medical truths were at first rejected by the most learned critics. It is a flagrant abuse of power and a manifestly unfair procedure to attempt to influence a reader against purchasing a work because it is personally distasteful to the reviewer.

The review columns of a journal should be the *sanctum sanctorum* of editorial purity. Of all departments, that of review should be unsullied by personal animosities. Sad to relate, there have been very recent instances in which the review column has been plainly used to satisfy personal dislikes and to pay off old grudges. This is absolutely so narrow-minded and suicidal that a feeling of disgust prevents any thought of sympathy or desire to advise the miserable offender.—*Jour. Amer. Med. Assoc.*

SPECIALISTS AND SPECIALTIES

A medical specialist differs widely from the poet, who, we are told, is "born, not made." The medical specialist is made, not born. No specialist has ever yet been born full-fledged from a medical college, though occasionally a young man imagines that such a miracle has been performed. The fledgling who supposes that a medical diploma and a post-graduate course can make a specialist, deceives himself and endangers the safety of the community. Such specialists have done untold harm to the profession. The eye, the ear, the skin are not simple appendages, each performing its duties independent of the rest, to be treated without reference to the other organs and the condition of the body at large. The successful specialist must also be a competent general physician. In no department of practice is this more true than in pediatrics. No man can ever become a successful practitioner among children, who has not a broad and thorough knowledge of general medicine.—*Arch. of Pediatrics.*

THE ORIGIN OF CONTAGIOUS DISEASES

The epidemicity of infectious diseases is at present regarded as a direct and immediate consequence of the transmission of a given pathogenic agent from man to man, and it is now a dogma in medicine that such diseases are derived exclusively from themselves, each attack presupposing a similar preceding disease. According to Dr. Kelsch, however, though this may be true of the eruptive fevers, it does not hold good of the most important group of epidemic affections, diseases formerly described as infecto-contagious. In these, he maintains, experience shows, contrarily to *a priori* considerations, that outbreaks occur in the absence of any previously existing source of infection. With regard to typhoid fever, for example, he points out that outbreaks occur in places where the disease had been unknown within the memory of man, and without any possible source of imported contamination. On this somewhat arbitrary basis it is inferred that typhoid fever may arise, not indeed spontaneously, but from agents ordinarily inoffensive disseminated in the surrounding air or lying dormant within the organism. According to this hypothesis, typhoid fever may therefore have a twofold origin, being on the one hand due to contagion, and, on the other, apparently spontaneous, that is to say, resulting from the pathogenic evolution of a ubiquitous germ normally devoid of morbid propensities. It is asserted, moreover, that the history of cholera furnishes manifold examples of isolated or collective, sporadic or epidemic, cases without contagion or importation, in which the ubiquity, simultaneousness, and incoherence of the attacks defy any attempt at associating them with direct contact, while it is obvious that they cannot have originated on the spot. It is claimed, too, that the autocthonous development of cholera has received bacteriological confirmation. For instance, it is not unusual to find in water, especially in sewage water, vibrios presenting the characteristics regarded as typical of the comma bacillus, to be distinguished from the latter solely by non-possession of the virulence associated with the real cholera organism. Even more remarkable is the fact that these inoffensive organisms may, under certain circumstances, acquire virulent properties, and thus become strictly analogous to organisms of the normal virulent type. The possibility of autocthonus development of pathogenic germs appears to be even more apparent in respect of influenza, which, apart from periodical epidemic outbreaks, presents itself in isolated and sporadic cases at all times and in all places. The two etiological factors do not exclude each other; indeed they seem to go hand in hand; and although contagion is doubtless one of the most important factors in the propagation of the disease, we frequently meet with local epidemics or individual cases occurring simultaneously in places far removed from each other under circumstances which militate strongly against the probability of the transport of a morbid germ by human subjects or by atmospheric currents. The same considerations, it is urged, apply in respect of diphtheria, seeing that in many isolated and collective cases it is absolutely impossible to discover any common source of contagion as the starting-point, the conditions implying autocthonous development working on parallel lines with contagion, preceding and reinforcing the latter as the epidemic proceeds. Mysterious as these phenomena may seem, it is a matter of common knowledge that Loeffler's bacillus is normally present in the mouths of many healthy persons, along with the pneumococcus and streptococcus, such normally inoffensive bacillus being capable of acquiring a virulence which it does not usually possess under the influence of various and still undefined causes.—*Med. Press.*

ASEPTIC SURGICAL FEVER

It has long been recognized by surgeons that operations and other forms of traumatism, such as subcutaneous incisions, simple fractures, luxations, and contusions, unattended with suppuration or other complication, may be followed by febrile reaction; and various explanations have been offered to account for this apparently paradoxic phenomenon. . . . It has been claimed that the disintegration of blood corpuscles is attended with the setting free of albumin, and investigation has shown that the nuclei of the leucocytes contain nucleohiston, which is capable of causing multiple thrombi and breaks up in the process of coagulation into histon and nuclein. As the nucleins appear in the urine in the form of alloxur bodies (including uric acid), the presence of these substances in increased amount would indicate the entrance of the former into the circulation. It has further been shown that the presence of the nucleins in the circulation is attended with leucocytosis. Now Schnitzler and Ewald were able in both animals and man to demonstrate the presence of an excess of alloxur bodies in the urine following manipulative procedures of such a character as gave rise to subcutaneous traumatism together with subsequent febrile disturbance, in the absence of infection. They also found leucocytosis under the same conditions. The inference seems therefore fair that as a result of the traumatism there are set free nucleins, which occasion the presence in the urine of an excess of alloxur bodies and also the development of leucocytosis, and which further may be viewed as one of the factors responsible for the resulting fever.—*Med. Rec.*

THE CONSULTANT

He is a privileged individual. One is reminded of the pilot who comes aboard off the coast and is temporarily the highest authority on the ship. The captain who has battled with wind and water, and maybe quenched a smothering fire, is temporarily superseded. No wonder that it often turns the head of even a modest man.

In a large percentage of cases the physician is chosen by chance. He holds his place during good behavior of both parties. Often his conscience tells him to retire. His avarice prompts him to hold on. His perspicacity suggests to him to call as counsel the most formidable rival, perhaps the one really entitled to the case. Here is a most severe test of the consultant's character. He knows that he is given a sort of retainer in the shape of a consultation fee to prevent his accepting the case when all, except physician in charge, desire it. The scheming is not all on one side and the consultant has many grievances. Consider also the fact that the consultant is often called just before the undertaker. He blasts the hopes by his prognosis and hence receives the shock of the family's rebellion against fate.

We can remind the ones consulted that they were tyros once; that they have made errors and were let down easy by some kind, fatherly practitioner; that they are not called primarily to enhance their own reputation, and hence they should restrain their desire to simply make a change in treatment; and yet an honest earnest profession like ours will not put up with any sort of suppression of action and decision just for the sake of policy. We would say: Don't make a change unless it promises some advantage, but if you can suggest anything that promises good, express it discreetly and tactfully. Where it is in order, say a good word for the captain of the ship, but deliver us from fulsome praise.—*Toledo Med. and Surg. Rep.*

THE NASTY SLATES IN SCHOOLS AND IN PHYSICIANS' OFFICES

As to the use of slates in schools, there has been some objection to substituting lead pencils and tablets, as ordered by the State Board of Health. Slates are going out of use.

An Indiana county superintendent, at a recent State meeting, stated that in Valparaiso and Gas City, slates are not used. He said they were only used in after-life in the offices of dirty doctors, and he wondered they did not abolish them.

Physicians should abolish slates from their offices ; they should also supply their offices with porcelain cuspidors containing water, and these should be emptied and washed daily. Notices should be placed on small cards requesting people not to expectorate upon any of the floors or steps of the office. Since such cuspidors and notices have been placed in the halls of the Sayles Building, occupied by some twenty or more physicians, it is extremely rare that any patient or visitor is guilty of spitting upon the floor.—*Indiana Med. Jour.*

MEDICAL ETHICS

Our attention has been called to the *Maitland Mercury* (N.S.W.) for December 2, where, under the heading "Operations at the Maitland Hospital," there is given a list of the operations performed during the past month, with the district in which the patient resides. The names of the operator and the medical men assisting are given in each case.

We are of opinion that the hospital authorities should not publish such a list of surgical operations in a lay newspaper. Such a course is not necessary, for if the members of the public desire to know the work done at the hospital they should inquire from the secretary. Moreover, such a course must be most objectionable to the unfortunate patients. Would the patients of a Sydney hospital like the Sydney lay press to publish a list monthly or weekly, such as: By Dr. A., assisted by Drs. B. and C., trachelorrhaphy and curetting, patient from Morpeth ; removal of large scrotal tumor, patient from East Greta; curetting, etc., patient from Homeville? Further, such a course of procedure must be most objectionable to the medical staff of the hospital, from the fact that it is a form of advertisement not permitted to members of the profession, and must therefore bring upon the staff some adverse criticism. Finally, we are of the opinion that the list was published without the consent of the medical men whose names are mentioned, for they must know that it is unprofessional for such paragraphs to appear in the lay press with their consent. It remains for the practitioners concerned to take steps to set themselves right with the rest of the members of their profession.—*Australasian Med. Gaz.*

PHYSICIANS' TAX IN NORTH CAROLINA

Two years since an obnoxious and burdensome law was passed by the Legislature of North Carolina, which imposed a tax of ten dollars a year upon each physician practicing medicine within its bounds. The medical profession and press of the country at large unanimously condemned this action, and were loud in their denunciation of the outrage. That the tax is unjust and class legislation aimed at a most worthy and humane portion of the community, no one can gainsay.

No body of men are more deserving of consideration by the State than are physicians, and the legal proposition that taxation must bear equally upon classes has been signally violated in this instance. The economic value of the physician's voluntary and charitable services to his State is well nigh incalculable. The human lives saved and perpetuated through the humane efforts and free services of this class of citizens cannot be estimated alone in dollars and cents, yet by these standards they would approach millions every year. At the ensuing term of the Legislature we trust that steps will be taken to repeal this iniquitous law and lift this burden from those who are in many instances really unable to bear it. We desire that the profession of the State, who are always upright, fair and zealous for what is good in the body politic, will unite and bring their influence to bear upon their several county representatives and have this law stricken from the statute-books.—*Charlotte Med. Jour.*

THE HIDEBOUND—WHICH ?

According to published report (*Registered Pharmacist* for November), the Woman's Christian Temperance Union has purchased land in Chicago upon which is to be erected a hospital, to be called the National Temperance Hospital, " inside whose walls not one drop of alcohol to be used for medicinal purposes is ever to find its way, nor can any physician cross the threshold as a practitioner until he has pledged himself to abstain from prescribing alcohol in any form for any patient who may come under his treatment within the wards of the building."

" We shall show the doctors who think that in some cases the administration of alcohol is a necessity to save a patient's life," said one of the promoters of the enterprise, " that they are utterly mistaken, and that before our work in the new field is a year old we can present facts in the shape of cured patients which will change the mind of many a physician, no matter how hidebound he may be in his prejudice !"

Upon which the *Pharmacist* remarks : . . . " If the use of the ordinary tinctures and tonics is to be permitted, the new hospital will not be so different from others established long ago.

" It is no uncommon thing to read newspaper interviews which quote certain physicians as saying they never prescribe alcohol in any form, but who, nevertheless, very frequently prescribe such preparations as tincture cinchona compound, etc., and in quite liberal and oft-repeated doses, which does not seem quite consistent. Possibly the promoters of the new hospital may not fully understand what excluding the use of alcohol in any form for medicinal use really means."—*The Sanitarian.*

LEADING PAPERS

ACTINOMYCOSIS

By EDGAR M. CROOKSHANK, M. B.
Professor of Comparative Pathology, and Bacteriology, King's College, London

IS human actinomycosis a rare disease in this country, or are there many cases lost sight of under a variety of names? I am anxious to draw the attention of the general practitioner to this disease, by indicating its clinical manifestations, and more especially by pointing out how easily it may be diagnosed by means of a bacteriological examination, as this may lead to the recognition of many cases in private practice, to their publication, and ultimately to the determination of the extent to which actinomycosis exists in England. The readiness with which actinomycosis may be mistaken for other morbid conditions which resemble it, and the absolute necessity for a microscopical examination, are illustrated by many of the early descriptions of this disease, both in men and in cattle. In 1845, Langenbeck, of Kiel, made notes of a case of vertebral caries, and prepared drawings of peculiar bodies present in the pus from an abscess. The drawings were published many years afterwards, and there can be no doubt that these particles were typical ray-fungi. In 1848, Lebert received from M. Louis some pus of a thick, almost gelatinous, constituency from the thoracic wall of a man aged 50 years. The patient was suffering from a pulmonary affection, cancerous in nature. The pus contained a number of little spherical bodies of a slightly greenish-yellow color, each about the size of a pin's head. They were readily crushed between two glass slides, and on examination with a power of fifty diameters, they were found to consist of a soft, connective substance and many wedge-shaped corpuscles, arranged in a radiating manner. Lebert figured these bodies and thought of helminthic débris, but he searched in vain for echinococci and cysticerci. Rivolta, of Turin, claims to have been the first to discover the ray fungus in a bovine case. As early as 1868 he published a paper on this subject, while Perroncito, who studied the sarcomata of cattle, claims to have observed the micro-organism in 1863. Hahn, of Munich, in 1870, detected it by microscopical examination, for he states that in a bovine case of "wooden tongue" he found characteristic organized structures which he provisionally regarded as a species of mold fungus. Robin, in 1871, both described and figured most accurately the bodies which we now recognize as "ray fungi." They were found in two or three cases in the pus of deep-seated chronic abscesses in man, and were described as yellowish grains composed of elements swollen at one end and tapering off at the other, arranged in a regular series radiating from a common center, which consisted of granular matter. Bollinger, in 1876, pointed out that actinomycotic growths occasionally occurred on the upper and lower jaws of cattle. These growths either started from the alveoli of the back teeth or from the spongy tissue of the bone, and by increasing in size loosened the teeth. In their progress they destroyed bone, muscles, mucous membrane, and skin. After some time they frequently broke down, forming ulcers, abscesses, and fistulæ; while in some cases tumors were formed which might attain the size of a child's head. Actinomycosis in man was first described as such by Israel, in a paper published in 1878, and Ponfick was the first to clearly recognize the identity of the disease in man with that occurring in cattle. Israel, in addition to the club-shaped elements, recognized and described a central core of fine filaments. In a work which he published in 1885, the various cases which had been observed up to that time were described. From this time onward, numbers of cases in man have been recognized with the aid of the microscope, and the publications of Bostrom, Moosbrugger, and my reports to the Agricultural Department of the Privy Council, may especially be referred to. Altogether, some hundreds of cases have been diagnosed, but very few of these have been contributed by English practitioners. In England, Dr. T. Acland was the first to recognize the disease by microscopical examination of the liver after death, and Dr. H. Taylor was the first to demonstrate the presence of the ray fungus during the life of a patient. Shattock found specimens in museums which, though bearing other names, were really from cases of actinomycosis. Among the English cases I may also mention those described by Dr. Skerritt, Mr. Eve, Dr. Ransom, Dr. Fairweather, Dr. Poore, and Mr. Malcolm Morris. I shall refer more in detail to some of the comparatively recent English cases, in describing the various manifestations of the disease.

Though actinomycosis in cattle has long been known in this country, it, as in man, was mistaken for other diseases, or received popular names. Indeed, to many the disease is still familiar under the names of wens, clyers, scrofulous abscesses, polypus, lymphoma, cancer of the tongue, lumpy jaw, bone cancer, bone tubercle, osteosarcoma, and fibro-plastic degeneration of bone; so that until about eight years ago, when my reports were published, actinomycosis was not generally recognized as a common disease of cattle in this country, in spite of the interest excited by the work of Fleming, to whom is due the credit of being the first to recognize the fungus in a bovine case. In 1887 there was a disease prevailing in Norfolk, and in the following year outbreaks of the same disease were reported in Essex, Hertfordshire, Cambridgeshire, and Middlesex. In the Norfolk outbreak, on one farm 8 per cent. of the cattle were suffering from wens or sitfasts, which I found on microscopical examination to be produced by actinomycosis. In all similar specimens which I have received from different parts of England and Scotland, as well as from the colonies, I have been able to demonstrate the presence of the ray fungus. I also met with the disease in other forms, including a case of pulmonary actinomycosis, with grape-like growths on the pleura, which had been regarded as tuberculous. In Australia, tumors in the upper and lower jaw commonly occur in cattle, and were attributed to scrofulous inflammation, or designated cancer or lumpy jaw, but a microscopical examination has revealed their true nature. In America, also, the disease was known as lumpy jaw, and is prevalent. Mr. Casewell, State Veterinarian, examined cases microscopically, and on one farm in Yates City, where there were eighty head of cattle, no less than sixteen were found to be suffering from actinomycosis. Mr. Casewell reported to the Board of Live Stock Commissioners for the State of Illinois, that the disease was common in nearly every county in that State, and that, in his opinion, it was increasing. In one instance, 109 animals suffering from actinomycosis were slaughtered. But is the disease really spreading in America, or is it that, by increase of knowledge and by more careful observation, more cases have been brought to light ? And as regards actinomycosis in man, in England, may we not well ask whether the disease is really a rare one, or is it not rather that many cases are still overlooked through want of discrimination with the microscope ? With a view to obtaining further information with regard to the human cases in England, I will proceed to point out the various ways in which the disease has been found to manifest itself in cattle and in man.

MANIFESTATIONS OF ACTINOMYCOSIS

I.—ACTINOMYCOSIS OF THE DIGESTIVE SYSTEM

(*a*) *Of the upper and lower jaw.*—In cattle, actinomycosis commonly attacks the upper and lower jaw, and is frequently associated with carious teeth. The growth extends and invades the neighboring cavities and sinuses, destroying the tissues with which it comes in contact, expanding the bones into thin plates, or reducing them to the appearance of pumice-stone. Quite recently I received the head of a Sussex steer in which the lower jaw was diseased on both sides. On dissecting away the soft parts, it proved to be a most characteristic case of so-called osteo-sarcoma. The teeth on both sides were carious. In man, also, the fungus may gain access through carious teeth, or wounds or fistulæ of the jaw, and very possibly by inflammatory processes in the pharynx and tonsils. The disease attacks the lower jaw most frequently. The tumor is found in close connection with the bone, or in the sub-maxillary or sub-mental region, and also in the pre-tracheal region. It occurs, though rarely, in the interior of the bone. In a case described by Israel, that of a woman aged 46 years, there was a small tumor about the size of a cherry attached to the external surface of the lower jaw, with an opening through which a probe could be passed into the bone. The tumor was incised and scraped away, and a cavity discovered in the bone, admitting a small sharp-spoon. Later, a further operation was performed ; the periosteum was detached, the cavity of the bone enlarged and the contents scraped out, consisting of granulation tissue, fragments of bone, and the yellowish fungi. At the bottom of the cavity the fang of the canine tooth was found. No return of the growth occurred.

The first cases of human actinomycosis observed in America were connected with the jaw. In 1884, Dr. Murphy described two cases at Chicago. The first patient was a woman aged 28 years. Two weeks previously she had suffered from severe toothache, with swelling in the throat and great pain in swallowing. It disappeared after poulticing, but she was again attacked with toothache and a swelling appeared on the angle of the jaw on the left side. The mouth could not be opened without difficulty ; the tonsil was much enlarged and pus was set free on incision. She still suffered from toothache and a small swelling now occurred on the left side of the neck below the jaw. She had several carious teeth. The swelling, which was about the size of a walnut, was punctured and a drainage-tube inserted ; a creamy-looking discharge containing yellow granules continued to escape, but the swelling and induration increased. A further operation was decided upon. The carious tooth was removed, and a probe passed into the alveolus showed a communication with the external wound ; the angle of the jaw was chiseled away and the alveolus scraped out. Iodoformed gauze was applied and the patient recovered.

The second case was that of a man aged 18 years, who had also suffered with severe toothache and swelling at the angle of the jaw. On examination, a carious tooth was noticed. The swelling was well marked and there was fluctuation; it was as large as a pigeon's egg and situated below the jaw.

When punctured, thick creamy pus escaped, containing the fungi ; the sinus was scraped out and in ten days the wound was healed. Another swelling appeared and this was treated as before and the patient recovered.

The peculiar feature of growths in this region is their apparent migration. Israel states that in one case a tumor occurred on the alveolar process, close to the carious teeth, and later was close to the edge of the jaw in the sub-maxillary region. Thence it disappeared, and a large swelling formed below the hyoid bone, and after this had been incised and had healed, an abscess formed above the clavicle. In other cases the disease has been described as extending from the alveolar process to the temporal bone or the base of the skull, destroying bones and even reaching the brain ; or the growth may descend by the spinal column, implicating the vertebræ and traveling and pointing in various directions.

(*b*) *Of the lips, gums, buccal mucous membrane, and palate.*—In cattle we find the disease occasionally appearing in the form of nodules, wart-like growths, or ulcers on the lips, gums, buccal mucous membrane, and palate. The nodules and ulceration of the palate were particularly well marked in a specimen submitted to me for examination, under suspicion of being the result of a severe attack of foot-and-mouth disease.

(*c*) *Of the tongue.*—In cattle, actinomycosis of the tongue shows itself in the form of nodules or wart-like patches under the mucous membrane, with a special tendency to ulcerate from the irritation of the teeth. These nodules may extend into the deep muscles, and often collect in rows more or less parallel to the superficial muscular fibres. Complete transverse sections of the tongue, double-stained, readily show this arrangement, even to the naked eye. Induration of the tongue results from secondary interstitial glossitis. I have only in one case found a distinct tumor of considerable size embedded in the substance of the tongue. It was about as large as a small Tangerine orange, and more or less completely isolated from any surrounding neoplasms.

(*d*) *Of the pharynx.*—In the pharynx I have found the disease in cattle, in the form of polypoid growths. In one case there was a large growth about the size of a cricket ball which, by interference with deglutition, produced great emaciation and, ultimately, death from asphyxia.

(*e*) *Of the intestines.*—Small nodules about the size of a pea, may be found in the human intestine, in the sub-mucous tissue and in the mucous membrane itself. They soften and form ulcers with undermined edges, the base reaching the muscular layer. They may undergo cicatrization, but, generally, the disease extends through the peritoneum to the abdominal cavity, and perforates the bladder or the intestines, or makes its way through the abdominal wall. Symptoms are either absent or not characteristic. The fungus may sometimes be found in the evacuations or by exploratory puncture. In a human case, under the care of Chiari, death with general marasmus took place at the age of 34 years, after an illness of two years' duration. The mucous membrane of the intestines was found at the post-mortem examination to be almost entirely covered with whitish patches, raised in the center and covered with yellow and brown granules closely adherent to the subjacent tissues.

(*f*) *Of the liver.*—The liver has been found to be the seat of the disease in several cases in man. The actinomycotic growths have a characteristic naked-eye appearance, from their peculiar honeycombed structure (See figure). The spaces between the fibrous trabeculæ are full of caseous matter, in which the more or less spheroidal masses of the fungus are imbedded. In museum specimens which have been for some time preserved in spirit, the contents of the loculi may have fallen out, and the honeycombed appearance is then much more marked than in recent specimens. In Dr. John Harley's well-known case, which was recognized after death as one of actinomycosis, the patient had been admitted to St. Thomas's Hospital with a very painful tumor, about the size of an orange, projecting forward from the left hypochondrium. The skin covering it was distended, shining, and pale, and the swelling was very painful on pressure. After death it was found that a number of tumors were scattered throughout the liver, and on examining sections under the microscope, Dr. Acland discovered the ray-fungus. Subsequently, Mr. Shattock examined similar specimens in the museum of St. Thomas's Hospital, and in two cases with honeycombed abscesses the ray-fungus was detected. Dr. Skerritt and Mr. Eve have both met with this disease of the liver.

I think it is extremely probable that cases of actinomycotic invasion of the digestive system not infrequently occur in general practice and are attributed to other causes. I am supported in this belief by the fact that Dr. W. Ransom has published an account of no less than eight cases which have been brought to his notice within the last six years in the Nottingham district alone. In five instances the mouth was probably the seat of invasion, and in all the digestive tract was affected. These cases included one of actinomycosis of the orbit, two of actinomycotic perityphlitis, one of actinomycosis of the head and neck, two of actinomycosis of the neck, one of actinomycosis of the cheek, and one of actinomycosis of the rectum and prostate. In the same year, Dr. Fairweather recorded a most interesting case of actinomycosis commencing in the vermiform appendix.

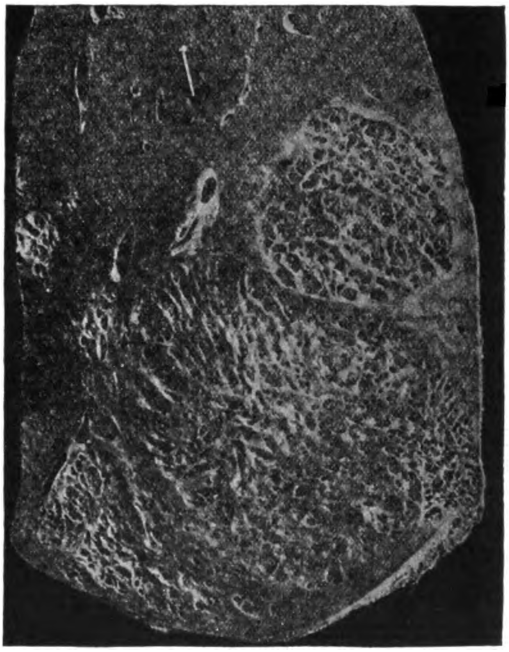
II.—Actinomycosis of the Respiratory System

(*a*) *Of the nasal cavities.*—In cattle, the disease may occur in the nasal cavities, either primarily or as the result of extension of a growth from the lips or from the pharynx.

(*b*) *Of the larynx, trachea, and bronchi.*—In cattle, polypoid growths, either sessile or pedunculated, arise primarily in the larynx, trachea, and bronchi, or occur secondarily by extension from the tissues in the neighborhood. I have had one specimen submitted to me in which the disease had invaded the mouth, traveled downward by the lymphatics, and ultimately developed a polypoid growth in the interior of the trachea.

In one recorded case in man the disease existed for seven years and was localized to the bronchi. The fungus was detected in the sputum by microscopical examination.

(*c*) *Of the lungs.*—Actinomycosis of the lungs is of special interest, from its liability to be mistaken for tuberculosis. When there are actinomycotic nodules in the lungs of cattle, and actinomycotic grape-like masses on the pleura, this mistake may be most readily made. In man, the course of the disease in the lungs may be thus decribed : The spores of the ray-fungi are inhaled and pass into the bronchioles and alveoli, where they produce proliferation of round cells, which undergo fatty degeneration. The resulting patches of peri-bronchitis or pneumonia become yellowish-white, suppuration and hemorrhage from the capillaries follow, and small cavities result, containing pus cells, fat granules, blood, and the fungi. In the neighborhood of the new growth there is compression of the alveoli, and ultimately the formation of a dense stratum of connective tissue, separated from the cavities by a lining of granulation tissue containing the characteristic fungus. The symptoms are usually obscure ; but the sputum may contain the fungi, which are often visible to the naked eye. The apices of the lungs are not, as a



Section of liver from a case of actinomycosis in man rule, affected. There is considerable clinical resemblance to chronic phthisis ; cough, night-sweats, pallor, shortness of breath, and hemoptysis are symptoms common to both. The existence of these symptoms, with the absence of tubercle bacilli in the sputum, would lead to the suspicion of actinomycosis, and the detection of the fungus is positive evidence as to the nature of the disease. In the second stage the symptoms are more characteristic. The disease spreads to neighboring parts and pleurisy commonly supervenes. This extension may involve the peri-pleural tissues. Thus the disease may follow the pre-vertebral tissues, descend behind the insertion of the diaphragm, and point as an ordinary psoas or lumbar abscess ; it may perforate the diaphragm and reach the abdominal cavity. Peritonitis or subphrenic abscess may then result. In some cases adhesions have formed, and the disease has extended to the liver or spleen, or other abdominal organs. The disease may also extend forward in the direction of the anterior mediastinum and the pericardium. The primary affection of the lung becomes of secondary importance. Grave symptoms occur—hectic fever, night-sweats, rigors, and marked pallor. In the third stage the disease comes to the surface, either over the chest or in the neighborhood of the dorsal or lumbar vertebræ ; a swelling appears of a livid color, and if punctured no fluid escapes, but if allowed to make its own way to the surface, the skin gives way, a muco-purulent discharge mixed with pieces of the growth escapes, and the fungi can readily be recognized.

I have said that the ray-fungi may be detected with the naked eye, and I may illustrate this by a reference to the case recently described by Dr. Vivian Poore. The patient had come under the care of a medical man in the country, with all the symptoms of effusion into the right pleura. Paracentesis was performed, and in the pus the little yellowish particles were observed. By a microscopical examination the diagnosis of ray-fungi was readily confirmed.

I have indicated how readily this disease may be mistaken for tuberculosis, and the case recognized by Mr. H. Taylor, and subsequently described at length by Dr. Douglas Powell, Mr. Godlee, and Mr. Taylor, is of special interest in this connection, for there was a strong family history of phthisis. This case was briefly as follows : A boy aged 9 years was admitted to the Brompton Hospital for pleurisy. He had a hacking cough, dyspnea, and hectic temperature. Over the fifth interspace there was a soft swelling. A piece of rib was excised by Mr. Godlee, and a large soft mass was felt within the chest walls which was thought to be of sarcomatous origin. Mr. Taylor examined microscopically a fragment of the growth and detected the ray fungus, which was also readily found in the purulent discharge. About four months afterward the boy died, and the case was found at the post-mortem examination to be one of primary invasion of the lungs with extension to the peri-pleural tissues. All other organs appeared to the naked eye to be free from the disease, except the liver, in which there was a small actinomycotic abscess.

A more recent case also very strikingly illustrates the resemblance to tuberculosis.[1] A patient had been suffering with symptoms of acute pleurisy. Paracentesis was performed, but the fever continued. No tubercle bacilli could be found in the scanty sputum. Later, the patient came under the care of Dr. Heusser, of Davos. Slight infiltration of the right upper lobe and a cavity in the right lower lobe were diagnosed, and, to the surprise of the physician in charge, instead of tubercle bacilli, typical ray-fungi were found in the expectoration.

III.—ACTINOMYCOSIS OF THE SKIN AND SUBCUTANEOUS TISSUES

The skin and subcutaneous tissues are a favorite seat of this disease in cattle, producing the so-called wens or clyers so commonly seen in the fen country. A wen is first recognized as a small tumor the size of a marble or walnut, which increases in size sometimes with great rapidity, and breaks down and discharges its muco-purulent contents through the inflamed and ulcerated skin ; or it may go on increasing, and form a large compact growth the size of a child's head. These growths, when excised, hardened, and cut, have the characteristic honeycombed appearance, produced by the interlacing bands of fibrous tissue, which form a spongy structure, from the interstices of which the fungus tufts and thick yellowish pus have for the most part dropped out. Actinomycotic tumors of the face in man sometimes correspond with "wens" or "clyers," and, as in cattle, they may discharge through the skin and the opening close or a fistula result. They differ in their tendency to form burrowing abscesses instead of recognizable tumors. In this respect they recall chronic inflammation rather than sarcoma-like growths. An interesting case of this kind was brought before the Pathological Society of London by Mr. Waring and reported in *The Lancet.*[2] The patient had been admitted to the hospital for a swelling of the cheek, which increased in size and burst into the mouth with discharge of purulent fluid. The swelling subsequently re-appeared and an incision was made at a fluctuating spot. In the pus which escaped the ray fungus was detected.

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[1] *The Lancet*, December 14, 1896.

IV.—ACTINOMYCOSIS OF THE NERVOUS SYSTEM

Both in cattle and in man, tumors are very rarely found in connection with the nervous system. They may occur primarily or as the result of extension of the disease from neighboring parts. Dr. Delépine has met with and fully described a most interesting case in man of an actinomycotic tumor of the brain.

V.—ACTINOMYCOSIS OF THE REPRODUCTIVE SYSTEM

The disease has been very rarely found to occur in man in the organs of reproduction. I have only met with one case in cattle, and this was the result of an extension to the scrotum of actinomycotic ulceration of the skin in the vicinity.

VI.—UNCLASSIFIED CASES OF ACTINOMYCOSIS

In addition there are a number of recorded cases presenting very varied symptoms and anatomical relations in which it has not been possible to satisfactorily determine the path of infection or to account for the seat of invasion. I need only refer in illustration of these cases in man to one reported in *The Lancet.*[3] This case was under the care of Dr. Marten, of Adelaide. There was an ill-defined swelling near the great trochanter, associated with weakness, fever, night-sweats, and insomnia. The swelling was incised and the discharge contained abundance of the ray-fungus. Later an incision was made almost the whole length of the thigh and various sinuses scraped out and a portion of the vastus externus which was studded with nodules was excised. In cattle the disease has been found in a few cases localized in the udder.

BACTERIOLOGICAL DIAGNOSIS

Careful examination of pus from a case of actinomycosis in man will reveal to the naked eye little yellowish-white or yellow bodies, which a casual observer might mistake for grains of iodoform. On collecting some of the discharge in a test-tube and holding it between the light and the eye the tufts of fungi appear as brownish or greenish-brown grains, embedded in a muco-purulent matrix. On spreading some of the discharge on a glass slip the largest tufts of the fungus are found to be about the size of a pin's head. They have a distinctly sulphur-yellow color by reflected light, but appear of a yellowish or greenish-brown tint by transmitted light. With a sewing needle or a platinum wire flattened at the end into a miniature spatula the grains can be readily picked out of the purulent discharge, transferred to a clean slide, and gently covered with a cover-glass. Examined with an inch objective they have the appearance of more or less spheroidal masses of a pale greenish-yellow color. On removing the preparation from the microscope, and gently pressing down the cover-glass with the finger, the grains flatten out like specks of tallow; and on again examining with the same power they are found to have fallen apart into a number of irregular and sometimes wedge-shaped fragments of a faintly brown color, affording a characteristic appearance. By preparing another specimen and covering it with a cover-glass without completely flattening out the grains, the spherical, oblong, and reniform masses of which they are composed can be recognized with a 1-6 in. objective as rosettes of clubs. If the grains consist of typical ro-

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[2] *The Lancet*, May 25, 1895.

[3] *The Lancet*, January 12, 1895.

settes and be merely covered with the cover-glass and examined without being flattened out between the cover-glass and the slide they will recall to mind, on focussing alternately, the center and the periphery, the appearance of the capitulum of a composite flower. The central portion appears to consist of spherical forms ; these are the extremities of the component elements, and as we focus the edge of the rosette these elements are seen laterally and their characteristic club-form is readily distinguished. The central portion may be flattened against the cover-glass, and as the individual clubs vary considerably in size, the appearance of an irregular mosaic is then produced. By examining the peripheral part of a rosette with a 1-12 in. objective, and especially after pressing the grains into a thin layer, with or without the addition of a drop of glycerin, the characteristic clubs are most readily demonstrated and the most varied shapes observed. In some cases the clubs will be found to be bifid at the extremity; in other cases there are lateral offshoots or daughter-clubs. Here and there will be found clubs closely pressed together like a bunch of bananas, and in other cases the broken-off pieces have a palmate form. In many cases the clubs are divided by transverse fission into two, three, or more segments. As a rule the clubs are regular in shape and about equal in size, while a few are conspicuous by their length. In other parts of a preparation the clubs are replaced by long, slender forms, which are sometimes transversely divided into a number of short links. With suitable illumination many clubs are seen to taper off into slender filaments. In addition there are free filaments, which are twisted, branched, and sometimes spirilliform. Many of the clubs are composed of layers differing in their refractive power and many have the appearance of a central channel. There are also in the same preparation small, highly refractive bodies, fat granules, granular detritus, round cells, pus cells, and sometimes blood corpuscles. The grains differ, as a rule, from those from a bovine source, in the absence of a sensation of grittiness so often transmitted to the finger when pressing the cover-glass upon them, and in the slightly greater tendency of the tufts to retain their compact form. By teasing the grains in a drop of water on a slide, and examining the preparation with a 1-6 in. or a 1-12 in. objective, the explanation of this is forthcoming ; for by this process the clubs are gradually washed away and a central core remains, which is composed entirely of a dense network of fine filaments. This can readily be observed by using a small diaphragm, and it will be found that the rosettes of clubs are now replaced by tangled masses, having some resemblance to miniature tufts of cotton-wool. These filaments constitute the delicate network which is seen in tissue-sections stained by the method of Gram. This can be readily verified by making a cover-glass preparation of the grains and staining by that method. The clubs in fresh specimens have a faintly greenish tint. and in form and arrangement are quite characteristic and easily recognizable.

The fungus in cattle may in the same way be detected with the naked eye in the muco-purulent discharge or in a scraping from the cut surface of a growth. The tufts of the fungus vary in size under different circumstances, from that of a grain of fine sand to that of a pin's head. If the pus or scraping be spread out on a slide and examined against a dark background the grains appear to be white or yellowish-white in color ; but if examined by transmitted light they appear distinctly brownish. On pressing the cover-glass on the slide the grains readily flatten out, being of a soft, tallowy consistency ; or in the process of gently pressing the cover-glass on the slide with slight lateral movement a distinct gritty sensation is transmitted to the finger, owing to the presence of calcareous matter. On examination with a low power the fungus will be recognized in the form of irregular patches scattered over the field, which might readily be regarded as collections of granular débris of a brownish or yellowish-brown color. On examining with a higher power, spherical, ovoid, or reniform bodies are to be seen which are either typical rosettes of clubs, or granular masses with here and there a club-shaped body at the periphery.

Pus cells, round cells, fat granules, and minute spherical bodies may also be distinguished. By teasing out the grains in water, and pressing them apart between the slide and cover-glass, we find that the central portion is composed, as a rule, of a structureless core ; but the core may be composed of the delicate filaments which are found in cultures and in the fungus from man. Calcareous material, if present, may readily be demonstrated by the action of acids. It will be found that on the addition of dilute hydrochloric, nitric, or acetic acids the calcareous deposit is dissolved while the clubs are not affected, and even with the addition of the strongest acids the only result will be to dissolve out the calcareous matter and clarify the tufts of the fungus, the form of the clubs being still recognizable. Permanent preparations may be made by mounting the fungus in glycerin.

The fungus in stained specimens.—Although the ray-fungus can be detected without any staining process there may sometimes be doubtful appearances, and then sections or cover-glass preparations should be made and stained by the method of Gram and with eosin or with orange-rubin. The filaments in human cases can be readily recognized, and this is of value, as it forms an additional means for the diagnosis of the disease. In combination with eosin or with orange-rubin, we have a test that is as characteristic and useful as that employed for staining sputum for tubercle bacilli. The discharge, scraping from a growth, sputum, or the isolated fungus is squeezed between two cover-glasses, which are then slid apart; they are allowed to dry, passed through the flame in the ordinary manner, and then stained. The cover-glasses can be cleared in clove-oil, the excess of clove-oil being removed by gentle pressure between pieces of blotting-paper, and then the preparation can be mounted in balsam and rendered permanent. On examination of these specimens the masses of filaments will be found to be stained blue and the tissue elements pink. The filaments vary very much in extent and character in different preparations. In some cases there are masses of short threads, which are some straight, others sinuous, or twisted, and sometimes branched. In other parts the field is occupied by very short, straight, or curved and sometimes even spiral fragments ; in others, again, there are comparatively long strands. On examination with a high power and with careful illumination some filaments will be observed to be moniliform, while others are provided with a terminal oval body. There are also free elements resembling cocci which are stained blue, and represent the spores of the organism. If orange-rubin be used instead of eosin the clubs will be more deeply stained. Both methods enable one to determine the exact relation of the threads to the club-shaped bodies. The threads are stained blue and the clubs crimson. In the younger clubs the protoplasm of the thread can be traced into the interior of the club. In some of the older clubs stained with orange-rubin the central portion takes a yellowish stain, and in others the protoplasm is not continued as a thread, but is collected into a spherical, ovoid, or pear-shaped mass. In others, again, irregular grains, stained blue, are scattered throughout the central portion. The sheath of the thread is stained pink ; and the protoplasm, stained blue, fills the sheath, or consists of small spherical and irregular grains, giving a distinctly beaded appearance.

The effect of various reagents should be tried upon the isolated grains. The grains are picked out of the pus and transferred to watch-glasses containing strong potash, xylol, and benzole. If returned to a slide and covered with a cover-glass the clubs are found unaltered. Water or weak potash washes away the clubs and the filaments become easily distinguished ; ether and strong acids have no effect upon them. Corallin soda, Hanstein's violet, and iodine zinc-chloride fail to give any particular reaction. Hoffman's blue stains the clubs, but without bringing out any structural details which could not be observed in the unstained specimens.

Appearances of cultures.—Boström, Wolff, Israel, Paltauf, and others have shown that actinomyces can be cultivated in the ordinary nutrient media. I have carried on a series of cultivations for some years on glycerin agar, gelatin and in milk, in broth, and on bread-paste and potato in order to observe the changes which take place and to study the variations which I found in the appearance of sub-cultures. In my experience the actinomyces after a few days on glycerin agar at the temperature of the blood, forms little, white, shining, moist colonies, which may remain stationary or increase or coalesce. In a week or ten days, sometimes earlier, and sometimes after several weeks, the cultures turn a bright yellow color, but some remain white ; others, again, have a tinge of pink and others are yellowish-brown. After a time a powdery efflorescence makes its appearance on the surface of the culture, which may be either yellow or white in color. The culture may go on increasing, spreading over the surface of the medium, and retain its yellow color, or it may turn black, partly or completely, while the agar is colored brownish-black. Cultures have a peculiar sour smell ; the variations in cultures were all proved, by careful testing of sub-cultures, to be due to the growth of the actinomyces under varying conditions of soil, temperature, and the supply of air. On microscopical examination the cultures are found to be composed of dense masses of fine branching filaments. Filaments with slight terminal enlargements may occasionally be seen, but typical rosettes of clubs are not to be found. These appearances are only obtained when the fungus is growing in the living body. The stage of efflorescence corresponds with the breaking-up of the filaments into masses of ovoid spores, singly, and in chains often closely resembling streptococci. Gelatin is slowly liquefied. Wolff and Israel cultivated actinomyces on raw and boiled eggs and claim to have succeeded by inoculation in the peritoneal cavity, in producing the disease in rabbits and guinea-pigs in the form of tumors of the peritoneum.

Life-history of streptothrix actinomycotica.—The life-history of the micro-organism may be summed up thus. The spores sprout into excessively fine, straight, or sinuous, and sometimes spirilliform threads which branch irregularly and sometimes dichotomously. The extremities of the branches develop the club-shaped bodies. The clubs are closely packed together, so that a more or less globular body is formed with a central core composed of a dense mass of threads. The threads can be differentiated by the method of Gram into an external sheath and protoplasmic contents. The club-shaped body externally appears to be mucilaginous, while internally it is continuous with the protoplasm of the thread. It is difficult to say what changes, if any, occur in the club-shaped bodies. Spores and young fungi are taken up by wandering cells and conveyed to a distance from the parent fungus, and thus fresh centers of growth are established.—*The Lancet.*

Mental Fatigue and Exercise

The *Jour. of the Amer. Med. Assoc.* (Dec. 19, 1896) quotes from the *Therap. Woch.*, that it has been generally accepted that muscular exercise, gymnastics, was beneficial after continued mental effort, and school children are often put through a course of gymnastics to dissipate their mental fatigue after the morning's study. But Bum and others now declare that recent tests have demonstrated that fatigue from mental exertion is increased by muscular exertion, and that nothing will dissipate this fatigue but physical and mental rest, viz., sleep.

Zinc Permanganate in Gonorrhea

A. S. Hosaling, in the *Med. News* (LXIX), states that the remedy that has given him the most satisfaction in the largest number of cases of gonorrhea, besides being equally successful in both the acute and chronic forms, is zinc permanganate. One remarkable characteristic of its action is the almost total absence of irritation following its use, the patient seldom complaining of pain. Its effects are discernible almost immediately, the discharge in the majority of cases becoming greatly reduced after a few injections.

The method of treatment is simple:

After the stage of acute inflammation has subsided, the injections are made four and five times a day after urination, with an ordinary blunt-pointed hard-rubber syringe, having a capacity of from three to four dr.

Treatment is begun with a solution of ½ grn. to 1 fl. oz. of water, gradually increasing it to 1½ grn. An alkaline diuretic is given, and the hygienic part of the treatment, which is of the utmost importance, is followed closely in every case.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Treatment of Epilepsy with Strontium Bromide

To relieve the frequency and severity of epileptic attacks, Dr. A. Roche (*Lancet*, No. 3183) strongly recommends the use of strontium bromide.

He gives it in doses of twenty grains, twice daily, combined with ten grains of sodium or potassium bromide. If acne appears, small doses of arsenic may be given in addition, which imparts added vigor and stimulates the appetite. He cites many cases of patients thus treated, and the results are certainly gratifying enough to warrant the profession in giving it a trial. The advantage claimed for the strontium over the other bromide preparations are that its effects are more lasting, there is less mental depression and that the stomach is less irritated.

Variola Parasites

The author, v. Sicherer (Ref. *Centbl. f. inn. Med.*, No. 19), repeated the experiments of Guarnieri and L. Pfeiffer by inoculating vaccine lymph into the cornea of rabbits, and obtained results which, he claims, confirm the statement of the above mentioned authors. Histologically, epithelial condensation occurred in the neighborhood of the inoculation focus. In the majority of the epithelial cells, the old as well as the newly formed, a somewhat strongly tinged body surrounded by a clear area was observed *within the cellular protoplasm outside of the nucleus.* This, with Guarnieri and Pfeiffer, the author looks upon as the variola (vaccine?) parasite: *cycoryctes Guarnieri.*

Picric Acid in Burns

The editor of the *Pacific Rec.* in commenting on a note on this subject in the *Brit. Med. Jour.*, where D'Arcy Power testifies to its excellence, says:

"The solution of picric acid is made by dissolving 1½ dr. of picric acid in 3 oz. of alcohol, which is then diluted with two pints of distilled water, or, more accurately: Picric acid, 5 gme.; alcohol, 80 gme., dissolve; add 1000 gme. of distilled water. This is a saturated solution of picric acid.

"The clothing over the injured part should be gently removed, and the burnt or scalded portion should be cleaned as thoroughly as possible with a piece of absorbent cotton-wool soaked in the lotion. Blisters should be pricked, and the serum should be allowed to escape, care being taken not to destroy the epithelial surfaces. Strips of sterilized gauze are then soaked in the solution of picric acid, and are so applied as to cover the whole of the injured surface. A thin layer of absorbent cotton-wool is put over the gauze, and the dressing is kept in place by a light linen bandage. The moist dressing soon dries, and it may be left in place for three or four days. It must then be changed, the gauze being thoroughly moistened with the picric acid solution, for it adheres very closely to the skin. The second dressing is applied in exactly the same manner as the first, and it may be left on for a week.

"The great advantages of this method of treatment are: First, that the picric acid seems to deaden the sense of pain; and, secondly, that it limits the tendency to suppuration, for it coagulates the albuminous exudations, and healing takes place under a scab consisting of epithelial cells hardened by picric acid. A smooth and supple cicatrix remains, which is as much superior to the ordinary scar from a burn as our present surgical scar is superior to that obtained by our predecessors, who allowed their wounds to granulate.

"I have used this method for more than a year in hospital practice, both amongst outpatients and in-patients, and I have every reason to be thoroughly satisfied with the results I have obtained. It is not an ideal method, for it stains the clothes and discolors the hands of the surgeon, but it is a great improvement upon anything else I know of."

Clinical Character of Grave False Croup

G. Variot (*Jour. de Clin. et de Thér. Infant.*) at the Trousseau Hospital, Paris, had in the beginning of December, 1896, a series of a dozen cases so serious as to give more deaths than from diphtheria and true croup. They showed, on microscopic examination, only the short bacillus, never the Loeffler nor any membrane. The fatal cases were carefully searched for other signs of true croup and diphtheria infection, but without finding any. The cold winter weather produced just such cases in 1895 also. It was utterly impossible to distinguish this false croup from true croup. The laryngospasm was identical; the wheezing was as noisy; the dyspnea and cyanosis were as great; the paradoxic pulse was as common, and the necessity for operative interference was as urgent. The usual remedies were useless to relieve the croup. Those who survived had a more obstinate laryngospasm, more difficult for prolonged intubation than the true croup. Anti-diphtheritic serum was used lest true diphtheria had been overlooked and because no other remedy was capable of surely relieving the spasm. Nothing gave relief except intubation and tracheotomy. As in true croup, rise of temperature was the signal for thoracic complications. The writer cannot assign the phenomena to their pathologic causes and concludes with this query: "In grave false croup, is there not a combination of states in which the lesions are more varied than we think, and which have as a common symptomatic feature the phenomena of suffocation with phreno-glottic spasm?"

Oyster Culture in Relation to Disease

The *Lancet*, No. 3824, in an editorial referring to oyster culture, deals with the question as to what measures are to be employed to remedy the dangerous state of affairs discovered by Dr. Bulstrode in certain localities. The end to be attained is to render the laying-down of oysters in dangerous localities impossible. It would serve to assist the carrying out of the provisions if it were enacted that all oyster-layings, fattening-beds, and storage-ponds should be registered by sanitary authority. Modification of the law governing the supply of milk when it is causing or likely to cause disease, might be made applicable to oysters. The public might also be protected against imported oysters by a law having in view the results of experiments made by Klein and other bacteriologists, by prohibiting any oysters from being sold as "relaid" until they have been from a month to six weeks in approved layings in home waters.

Albumosuria

M. L. Harris, in the *Chicago Med. Rec.*, 1896, X, No. 4, recommends the following test, claiming that it is so delicate that one part of albumose or peptone in 50000 parts of urine may readily be detected.

To 20 ccm. of acid urine in a test-tube are added 6 to 8 drops of a saturated solution of salicyl-sulphonic acid in distilled water, and 1 gme. of plumbic chloride. (The urine must be fresh. If it must stand several hours before it can be examined, it should be preserved from the growth of bacteria in it by the addition of some antiseptic, preferably a few drops of formaldehyd, which will keep it several days, and does not interefere with subsequent tests.) Shake well and boil about thirty seconds. Cool by shaking in running water from the cold-water tap. Filter through ordinary clean white filter paper until the urine is clear. Now add a few drops of a clear saturated solution of sodium sulphate in distilled water, in order to precipitate what lead is held in solution; raise to the boiling point and cool under the cold-water tap as before. Filter again until clear. A perfectly clear urine, absolutely free of every trace of coagulable albuminoids, including nucleo-albumin, should now be obtained. This is to be tested for albumose or peptone. This clear filtrate is divided into three equal portions and placed in test-tubes, one of which is kept for comparison, the other two for further analysis. To one of these are now added 3 or 4 drops of a saturated solution of salicyl-sulphotungstate of sodium in distilled water, which is made as follows: To a boiling saturated solution of tungstate of sodium in distilled water, salicyl-sulphonic acid is gradually added, under constant stirring, until the solution no longer turns red litmus blue. Upon cooling, the salicyl-sulphotungstate of sodium crystallizes. A solution is now made of this in cold distilled water. A perfectly clear, colorless fluid results.

If albumose or peptone be present, a cloudiness will appear, varying in degree according to the amount of these proteids present. As the amount of albumose present is often very minute, it may be necessary to compare the tube with the control tube in order to detect the cloudiness. The cloudiness disappears entirely on gently heating the test-tube, to reappear on cooling. To the third tube the test is varied by allowing about 5 cc. of a dilute solution of the salicyl-sulphotungstate of sodium, made by adding about ten drops of the strong solution to 5 cc. of distilled water, to very gently flow down the side of the tube so as to rest on the urine as a separate layer. This should be very carefully done, that the line of contact will be sharp and clear-cut, not diffuse. A cloudy line appears at the point of contact of the two liquids if albumose or peptone be present. When the amount present is very small, it may take two or three minutes for the line to develop, and shows best, the two liquids being clear, when held in front of a dark background.

This test, the author claims, is extremely delicate; it is simple and can easily be applied in fifteen to twenty minutes. Owing to the delicacy of the reactions, it is necessary that all test-tubes be absolutely clean and the test solutions perfectly clear; otherwise a slight reaction may easily be overlooked.

The author agrees with Stewart, Posner and others, that normal urine always contains a minute trace of an albuminoid body, probably nucleo-albumin. This, as well as other albumins, serum albumin, globulins, etc., must first be removed before testing for albumose or peptone. Finally the following conclusions are offered:

1. True peptone being very rarely, if ever, found in the urine, the term "peptonuria" should be substituted by the term "albumosuria."

2. The albumoses are produced by the digestive or peptonizing action of microbes on the albumins of the body.

3. This digestive action is one common to all forms of living organisms.

4. The albumoses are produced in quantities much in excess of what are appropriated by the microbes for their growth and development.

5. The albumoses being readily diffusible, the excess in production is quickly absorbed by the blood where, being toxic and thus acting as foreign bodies, they are eliminated by the kidneys and appear in the urine.

6. Albumosuria may be present in any condition or disease due to the action of micro-organisms within the body, and is thus simply indicative of an infective condition.

A Physical Sign of the Rheumatic Diathesis

Mr. W. F. Litchfield insists that there is a sign of the rheumatic diathesis. (*Australasian Med. Gaz.*, No. 182.) He has observed that in persons who are predisposed to acute rheumatism the baby condition of the skin and subcutaneous tissue obtains more or less. In such cases the padding of fat that exists normally on the extensor surfaces becomes tenser, and the flexor surfaces become padded with a tense subcutaneous tissue. The face has a characteristic plump, smooth appearance, and folds take the place of creases and wrinkles.

Mr. Litchfield recommends the examination of the front of the arm and the face for the estimation of this sign of the rheumatic diathesis. If in an adult the skin cannot be freely pinched up over the biceps, and if the face has the character described above, the writer asserts that such person has a strong rheumatic tendency.

Haig maintains that a *sine qua non* for the occurrence of acute rheumatism is an excess of uric acid in the blood. Further, he has established to his own satisfaction a direct relationship between the amount of uric acid circulating in the blood and the degree of anemia that obtains. Again, he asserts that chlorosis is caused by an excess of uric acid in the blood. He speaks of "the edematous, almost myxedematous, face" seen in chlorotic patients. This fulness of the face in chlorotics is mentioned by other writers. This tenseness of the subcutaneous tissues of the face obtains over the rest of the body, and resembles closely the baby condition already described.

If we accept the above statements, and remember that children as a class are very subject to rheumatism, we are able to form a table that reads as follows:

Rheumatics have	**Excess of uric acid circulating in their blood,**	**are anemic, have**	**tense subcutaneous tissues.**
Chlorotics have		**“ “ “**	
Babies have		**“ “ “**	

The writer further adds that if we still stick to Haig, that this table can be shortened by including rheumatics, chlorotics and babies under the one term—*those of a rheumatic diathesis*—and adds that this rheumatic tendency is the direct result of an excess of uric acid circulating in the blood.

Autumnal Fevers of the Southern Atlantic States—Treatment

Dr. Bedford Brown, in *The Virginia Semi-Monthly*, No. 18, states that fever of a malarial origin yearly visits, from August to the middle of October, all that vast section comprised within the Southern Atlantic and Gulf States, and also of a large portion of the interior, comprising the Middle, Western and Southern States. In this fever, the writer does not believe there is one case in twenty which is genuine typhoid or enteric fever. With reference to treatment, water, if not the chief, is a common carrier of malaria; safety, therefore, lies in a combination of sterilization and filtration. Quinine is the only certain and acknowledged antidote to the parasite of malaria, the author writes, but its efficiency as such depends upon the manner of its administration. We must gauge the quantity of quinine to the amount of parasite in the system and the gravity of the case. The remedy should be given in large doses at longer intervals, rather than in small doses at shorter intervals. Thirty grains given in ten-grain doses three times a day is far more efficient in the remittent forms of fever, than the same quantity given in two-grain doses every two hours. Twelve-grain doses morning and evening act more decidedly than twenty-four grains divided into broken doses every two hours. In decided forms of fever, quinine should never be given in small doses, however often repeated.

From experiment, Dr. Brown found that *in the treatment of intermittent fever* fifty grains of quinine given within thirty-six hours preceding the chill, was the maximum quantity required to arrest the disease. Thirty grains given within twenty-four hours preceding the chill in a majority of cases would arrest it, but not invariably. Five grains of acetanilide given just before the chill would invariably modify the chill and resulting fever.

In regard to *chronic chills and fever*, ten grains of quinine given in sherry wine before breakfast, and Warburg's tincture in full dose after dinner and supper, almost invariably act as a preventive.

Quinine should never be given in pill form, because of the insolubility of pills.

During the febrile exacerbation, when the temperature is high, the skin dry, the pulse frequent, Dr. Brown recommends five grains of phenacetine and three of acetanilide given every two hours.

Latent Paralysis After the Use of Antidiphtheritic Serum

In the *Gaz. Hebd. de Méd. et de Chir.*, Filiatre cites a case of laryngeal obstruction occurring in a child 3 years of age ; the affection on bacteriological examination proved to be diphtheritic. An injection of 15 c.c. of antitoxin was at once made into the right flank, and forty-eight hours later a second injection of 10 c.c. into the left flank. The false membrane disappeared in the course of twelve hours. The patient continued well for more than a month, when it was observed to speak through the nose. A day later it was impossible to understand what the child said, and saliva dribbled from the mouth. Several days later the head could not be held up. The patellar and pupillary reflexes were intact. Sensibility was not affected. The muscles especially affected were the extensors of the neck, the rotators of the head, save the sterno-mastoid, the supraspinous and the elevators and abductors of the scapulæ. The facial muscles were also disturbed to a large extent, as well as the abdominal recti muscles. After instituting electrical treatment, improvement rapidly set in, going on to recovery.

Scabies

According to the *Jour. Am. Med. Assoc.* (Dec. 26), Jullien, when on a visit to Italy, saw in the consulting rooms patients stripped naked and being painted by the attendants with a brownish fluid from head to foot. He was informed that this method of treating scabies, by painting the body with Peruvian balsam without friction, was the most effective. Since then he has adopted it in his own practice, and recommends it in high terms as simple and inexpensive, while much more effective than sulphur treatment, etc. He speaks with an experience of 300 hospital cases, besides those in his private practice. The odor is agreeable, and it kills the acarus and its eggs very rapidly. No preparation is necessary, the grease of the skin facilitating the action of the remedy. It is applied with a brush and gently rubbed over the surface of the body. At night is the best time, and a bath follows in the morning or later.

Fetid Feet

Dr. Frey, in *La Clinique*, washes once or twice a day the plantar surfaces and the spaces between the toes with a 2-per-cent. solution of formol, and employs same solution for rinsing inner sole of shoe. Thorough wiping after each washing. Results better than with powders of salicylic acid, curing bad smelling of feet where the salicylic acid had failed.

Treatment of Human Actinomycosis

Jurinky, in *Centralbl. f. Chir.* (No. 36, 1896), describes three cases that were treated with iodide of potash in Wölfler's clinic. In two cases of actinomycosis of the head and neck, after incision of fistulæ and abscesses, iodide of potash was given in one or two gme. doses daily. One was cured in one and a half, the other in six months. The drug should be continued for some time after the closure of fistulæ and abscesses, because small recurrences may take place, even months after. A case of actinomycotic perityphlitis, after incision of the abscess and under iodide of potash treatment, resulted in cure, but three months later a small actinomycotic abscess recurred in the old scar. It is remarkable how soon the pain disappears under this treatment. How this drug acts is still unsettled.

Lead Poisoning from Milk Cans

Two patients observed by Dr. Duchenne, a man and a child, were thought to be suffering from lead poisoning, since lead was found in the tinning of the cans from which they had used milk.

Prof. A. Gautier, at the Paris Academy of Medicine, as reported in *Sem. Méd.* (IV, No. 50), rightly observes that the inference could not properly be maintained without an actual analysis of the milk itself. Milk kept in a tin can is only under certain conditions able to take up lead from the tinning, as, for instance, when the milk is sour. There was no statement that the milk consumed was sour. It is therefore probable that the symptoms of intoxication observed, colic, cramps, vomiting, etc., were due to the presence of toxins generated by bacterial fermentation, caused by the can having been kept in an uncleanly state.

NEUROLOGY AND PSYCHIATRY

Comparative Effects of Different Alcoholic Drinks on Man

According to the *Bull. Méd.* (No. 19, 1896), Lanceraux has investigated the changes taking place in the nervous system, due to abuse of different alcoholic drinks, wine, beer, absinthe, essences, etc.

In excessive use of alcoholic drinks of high percentage of alcohol, the tactile and thermal sensibilities do not seem to be greatly altered, while sensibility to pain seems exaggerated. In those that use absinthe and similar drinks to excess, the plantar reflexes are increased, light tickling causing movement, while slight stroking of the knees, legs, or abdomen causes pain severe enough to cause the patient to complain.

Similar results, although less marked, are to be observed in the upper extremities. In wine-drinkers, this sensitiveness of the skin is much less in the lower extremities ; above there may be a zone of hyperesthesia ; while still higher in the body, normal skin sensation is the rule. Psychical symptoms by absinthe drinkers are stated to be fewer than is generally supposed and taught in the ordinary text-books. Wine and alcohol drinkers are prone to attacks of acute delirium, while in those that drink alcoholic essences, forms of dementia are more liable to follow.

Experimental Epileptoid Symptoms

Dr. Charrin, at the November meeting of the Biological Society of Paris (*Sem. Méd.*, IV, No. 49) said : " I have recently met with epileptoid symptoms recalling those described by Brown-Séquard.

"I am thus enabled to show you a guinea-pig, in which pinching the skin in the cervico-dorsal region determines an attack, characterized by twisting of the body on the irritated side, by twitching in the hindleg, lasting for a few seconds, and by the animal falling on its side as a result of movements of rotation around the long axis of the body, etc.

"It is an easy matter to determine these attacks, which sometimes overlap, although there is obviously a tendency toward exhaustion.

"In the interval between the attacks, the health of the animal appears to be good. The motor disturbances are of no importance; but here and there are a few spots with slight anesthesia.

"This animal has undergone double posterior amputation, attributable to thermic elevation of electric origin, it having been treated by Prof. d'Arsonval and me with high frequency currents after injections of diphtheria toxins.

"We do not wish to attribute to the electric currents the resistance of this animal to the toxin, as we have regularly met with failure in cases of intoxication. All we have been able to obtain, and that without heat, is occasionally a slight degree of attenuation *in vitro*, but never the remarkable decrease in the toxicity reported by Bonome, Viola, and Casciani. Nor have other investigators been more successful in this respect than Prof. d'Arsonval and I.

"It is difficult to determine, especially before histological examination has been resorted to, whether the symptoms observed in this animal are due to these currents, nervous shock, irritation from division of the sciatic nerves, intoxication, etc., all of which processes have been incriminated in their turn. It is worthy of note, however, that it has taken five months for these disturbances to develop, a period which corresponds to several years in human subjects. This shows the necessity of not being too hasty in pronouncing a certain agent harmless."

The Value of a Knowledge of Neurology

The following timely and interesting statement is from an editorial in the *Boston Med. and Surg. Jour.*:

" The majority of medical students seem to regard the subject of neurology as something metaphysical and mysterious, a field apart from that of the rest of the science of medicine, and one which is only cultivated by persons of a peculiar squint-brained mold who devote themselves to it more to beguile the tedium of an elegant leisure than with any serious idea of benefiting humanity. They scoff, moreover, at the limited scope of its therapeutics, and attempt to stifle its *raison d'être* with the sneering remark that ' All you can do is to give iodide—and a bad prognosis '; and they even go so far as to glory in their profound ignorance of nervous disease, and studiously avoid the clinics.

" It should be impressed upon such men that in so thinking and doing they are thereby really throwing away the most splendid opportunity which is offered to them throughout their whole medical course, of training the two faculties most essential to the successful physician—the faculties of observation and of logical induction.

" As regards the cases which are really chronic from the start, a practical knowledge of neurology will enable the physician to alleviate suffering even if he cannot cure and, what is of chief importance, prevent him from exaggerating the disease by indulging in a wholesale and irrational exhibition of strychnia, bromides, and iodides.

"There is absolutely no reason why the sufferer from incurable nervous disease should not obtain at the hands of his medical attendant the same solicitude and studied attention to the alleviation of symptoms as does the victim of chronic heart, lung, or kidney trouble; but that he generally fails to get either is a fact which obtains and will continue to do so until a broader and more rational knowledge of neurology is, by compulsion, if necessary, incorporated into the general mass of medical information which is required of the men who leave our medical schools."

Electrical Stimulation of the First Dorsal Root

H. Oppenheim, of Berlin, according to the *Klin. Woch.* (No. 39, 1896), in order to decide the question whether the oculo-pupillar fibers are in part derived from the first dorsal root or not, made use of a gunshot wound case in which the spinal canal was opened, exposing from the first to the fourth dorsal segment. Electrical irritation of the second dorsal root was negative; while immediately after irritation of the first, dilatation to a marked degree followed. This dilatation disappeared on removing the electrode. The author concludes, from his experiments, that the dilator pupillaris muscles receive their nerve supply from the first dorsal.

Cerebro-Spinal Meningitis

According to the *Univ. Med. Mag.* (Dec., 1896), "Heubner (*Deut. med. Woch.*) states that the view which attributes epidemic cerebro-spinal fever to the pneumococcus is not satisfactory.

"Weichselbaum found in one epidemic a special micro-organism occurring in twos and fours, lying with their broad sides opposed and not lanceolate. It was found chiefly within the cells; hence the name meningococcus intracellularis. Heubner has had a child, aged 1½ years, in his clinic in which it was possible to demonstrate the presence of this micro-organism both during life and after death. By spinal puncture, a sero-purulent fluid was obtained, and in the pus cells a diplococcus or tetracoccus was found. This micro-organism was then obtained in pure culture. The injection of the spinal fluid into the vertebral canal of guinea pigs and rabbits gave negative results. In a young dog the result was doubtful, but in two goats a meningitis was developed, and the meningococcus was obtained from the exudation. Thus in susceptible animals, as in man, the meningococcus produces the same disease.

"The author showed by injecting the pneumococcus obtained from a pleural effusion that the virulence of the meningococcus was less than the pneumococcus. This corresponds with clinical experience, which shows that a pneumococcus meningitis is rarely recovered from, the fatal result occurring in a few days. In epidemic cerebro-spinal meningitis, however, only one-third to one-half of those attacked die. The recognition of this form of meningitis by the help of spinal puncture is of great importance."

The Associated Study of Crime and Insanity

Dr. Edwin Goodall, medical superintendent, Joint Counties Asylum, Carmarthen, in an article on this subject in the *Lancet* (No. 3826), calls attention to the very close relations existing between the two classes. The desirability of having prison medical officers experienced in the management of the insane, and vice-versa, is fully and thoroughly discussed, and the danger that, acting apart, these two classes of medical men "should leave intact the root of the neurotic tree, whilst they are busily engaged in lopping off its branches," pointed out. He says: "Recently, attempts have been made to show that the prison system is productive of insanity, and that a considerable amount of the insanity recorded in prisons is due to the treatment therein received. An unbiased inquiry into the cases so recorded would probably show that in the vast majority the insanity manifested itself shortly after admission; in other words, that in the great majority of the cases the individual was either actually insane or a candidate for insanity on admission to jail."

Prominent among irresponsible persons who arrive in prison, in consequence of the excessive regard paid to the offense and the inadequate estimate of the offender, is the general paralytic in an early stage. In the absence of expert supervision of jails, his malady is likely enough to be overlooked. "Crime is a medical question, and candidates for medical appointments in prisons should be required to show that they have given special attention to lunacy."

England is behind continental Europe in its knowledge of criminals. "Alike abroad and at home, the question arises, whether it would not be advantageous to associate with each other the prison and asylum services, in order that crime and insanity may be studied side by side."

SURGERY

GENERAL

Immediate Suture of the Bladder After Suprapubic Cystotomy

Vlaccos (*Rev. de Chir.*, 1896, No. 8) states that although primary suture of the bladder after suprapubic operations for stone have been successful in the hands of numerous European surgeons, still the siphon method is generally employed. He believes that in cases of calculi the bladder wall is, in the majority of cases, in sufficiently good condition to warrant primary suture.

He found in 150 cases only twelve cases, or 8 per cent., in which there had occurred alteration in the bladder wall of sufficient gravity to contraindicate primary suture; whereas primary suture had been adopted in but twenty-two of these cases, instead of 138 in which it was indicated.

No general rule can be laid down as to what cases shall be sutured. He believes catgut the best form of suture, though silk may be used. Catgut No. 3 or 4 will remain unabsorbed for seven or eight days, and five days are sufficient for firm union.

It is not necessary for the bladder to be sutured so carefully as to be impervious. If that were the case it would rarely be successful. The important point is to never permit the bladder to become distended.

As to the age of the patient, Vlaccos believes it makes little difference at what period of life the operation is performed. He allows his patients to go about on the twelfth to fifteenth day, which is a much shorter convalescence than after the siphon method.

Repair of Divided Nerves

Ziegler (*Arch. f. klin. Chir.*, LI, Part 4: *Centralbl. f. Chir.*, 1896, No. 46) experimented upon dogs, rats, frogs and rabbits, dividing the nerves in some cases and constricting them in others. Most histologists have said that an active growth from the cut ends of the axis-cylinders of the nerve re-established its continuity. Ziegler denies this. He finds that the active part of regeneration is played by the neurilemma.

Division of a nerve is followed by degeneration of both central and peripheral ends, but more especially of the latter. Absorption of this degenerated material takes place, and meanwhile the neurilemma, or sheath of Schwann, is engaged in active growth. From it arises a protoplasm rich in cells, which sends out fibrillæ which later become differentiated into axis-cylinder and medullary sheath and neurilemma. Ziegler therefore looks upon the sheath of Schwann as something entirely different in its nature from ordinary connective tissue.

Differentiation in the protoplasmic fibrillæ appears early. First the axis-cylinder can be made out—sometimes two or three lying side by side in a single fibrilla. Then the medullary sheath is distinguished, and about it the nuclei gather more superficially in the form of a membrane. This grows thinner and forms the sheath of Schwann.

The union of the new axis-cylinder and the old one is a secondary process, and is accomplished by a minute nucleated drop of protoplasm appearing at the central end of the divided nerve, in close connection with the sheath of Schwann.

Chronic Intestinal Obstruction Caused in the Sigmoid Flexure

Frey (*Beit. z. klin. Chir.*, XVII) relates a case of chronic intestinal obstruction occurring in a feeble young man aged 20. For eight years the patient had suffered from alternating constipation and diarrhea, and occasional acute attacks ushered in by abdominal pain and great abdominal distention. The symptoms were relieved with the passage of wind per anum, but in the course of time the abdominal distention became permanent. Twenty inches of rectal tube were readily passed up into the bowel, which two quarts of water did not distend uncomfortably.

At operation, the sigmoid flexure was found to be greatly distended, the obstruction occurring at its junction with the rectum. At this point it was bent at an acute angle, and distention of the sigmoid by pressure closed the lumen of the bowel as by a valve. Resection of this sharp kink and entero-anastomosis cured the patient.

A few similar cases have been reported, and it is not possible to make from the symptoms a differential diagnosis between chronic intestinal obstruction caused by this condition and that caused by volvulus. If the obstruction is acute, it is almost certain that it is due to volvulus.

Origin of a Ganglion

In 1893, Ledderhose advanced the theory that ganglia were due to the formation and subsequent union of cysts of gelatinous degeneration in the tissues around a joint. This story has never been disproved. (See A. M.-S. BULLETIN, X, No. 7). While it does not explain all the difficulties, it throws new light on a subject little understood. Recently Thorn (*Arch. f. klin.*

Chir.) has made a microscopical study of ganglia, seeking to determine especially the formation of the capsule and its relation to previously existing cavities. His conclusions are substantially the same as those of Ledderhose, although he does not agree that the capsule is lined with endothelium. This difference seems to be, however, merely a difference as to what the word "endothelium" implies.

In connection with his subject he reports a case of a small tumor of the back of the hand, moving with the tendon of the extensor communis digitorum, running to the index finger. This was cut down upon, under the supposition that it was a ganglion; but it proved to be a degenerative cyst of the tendon itself, which, to the unaided eye, appeared in every respect, both as to contents and capsule, like a ganglion; but sections of its wall showed that it was an area of gelatinous degeneration of the tendon. If left to itself, the cyst would apparently have grown until it ruptured into the tendon sheath.

The Treatment of Fractures

Dr. G. G. Davis gives the following summary in a paper on "The Treatment of Fractures" in the *Annals of Surgery*, Dec., 1896:

(1) It is my belief that massage and passive motion is not used to the extent that it should be in the treatment of fractures.

(2) That immobility of the fractured ends favors quick union with little deformity.

(3) That there are some cases in which, owing either to peculiarities of the fracture or the impaired constitution of the individual, the tendency to the formation of callus is marked. Motion in these tends to the formation of exuberant callus and deformity.

(4) There are others in which bony union is unduly delayed; disturbance of the fractured ends in these hinders union.

(5) It is wise to wait until the fractured parts are glued together, usually eight or ten days, before attempting any except the lightest massage, and any extensive passive motion after that time should be used carefully but diligently.

(6) Passive motion and massage when first attempted should be of the most gentle character, and not so violent as to disturb the relation of the broken bones.

(7) Any marked pain and inflammatory reaction following passive motion and massage is evidence that it has been too violent.

(8) The limb should receive massage and manipulation at each inspection or change of dressing, often daily.

(9) That in some cases it is advisable to administer such massage as is possible without removing the splints.

(10) That persistent stiffness, particularly in fractures or injuries of the wrist, is often due to a rheumatoid affection locating itself in the injured region. Massage is valuable in the treatment of such[1].

(11) Massage should be given to that part of a limb beyond the seat of fracture to preserve it in a normal condition.

(12) Such dressings and methods of treatment should be adopted as will allow of the greatest use of massage and passive and active movements consistent with proper retention of the fragments.

Primary Hepatic Cancer

Segond (*Sem. Méd.*, Dec. 9, 1896) has found only twelve operations for primary hepatic cancer reported in literature. He adds a case in which he removed a large fibrocystic growth, supposed until operation to be attached to the uterus. The operation was not difficult, but the patient died of shock in twenty-four hours. The tumor, which was predicted, was attached to the under surface of the liver. It was adherent to intestines and omentum. The adhesions were separated without difficulty, the pedicle was ligated and its stump treated extraperitoneally. This was the treatment of the stump in ten of the twelve cases previously recorded. As all of the recorded cases recovered, the conclusion is made that the risk of operation upon the liver is *per se* not great.

Fracture of Lumbar Vertebræ—Treatment

Enderlin (*Deutsch. Zeit. f. Chir.*, XLIII) describes a case of fracture of the sixth dorsal and first lumbar vertebræ, occurring in a man aged 30. The accident was followed by disturbed sensation and paralysis of the sphincters. The patient died in six months of phthisis. At the autopsy it was seen that the injury to the cord had been caused by the fracture of the lumbar vertebra. The body of this had been pressed into the cord to the depth of four mm., almost completely destroying its continuity. Above this point there was an ascending degeneration.

There never was, in Enderlin's opinion, any indication for operation in this case. The symptoms at first were merely those of concussion of the cord; and later, when severer symptoms manifested themselves, operation would have been useless.

Enderlin is opposed to operation in fractures of the vertebral column unless there is present a comminuted fracture, or a fracture of the arch of the vertebra, or penetration of a bony fragment into the cord; and even in cases of pressure caused by a blood clot, etc., it is better to wait for three weeks, until the diagnosis is certain, as the delay does no harm. In cases of slight injury to the cord in which operative interference has been followed by recovery, it is doubtful whether the good result is to be ascribed to the operation or to the restorative power of the body.

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[1] The use of the local hot-air bath promises to be as valuable in the limbering of stiff and contracted extremities as is massage.

Autopsies show that 95 per cent. of the fractures of vertebræ are of their bodies, and these cases are much less amenable to operation than the comparatively rare fractures of the arch.

Treatment of Hernia in Childhood

George Heaton (*Birmingham Med. Rev.*) states that, in his experience, hernia becomes less frequent in children year by year up to the age of twelve or thirteen, and believes that this is due to the tendency toward spontaneous cure in the very young. He also thinks that, in making a prognosis, the following are the chief facts to be considered:

Age: The younger the patient and the earlier the treatment is begun, the better the prospect of ultimate cure.

The character of the hernia: Umbilical hernia is usually cured by proper attention, while femoral hernia is rarely cured by truss, and seldom disappears spontaneously; inguinal hernia may partake of either characteristics.

Sex: Inguinal hernia in girls may usually be cured by truss.

Due regard must be had to avoid any cause of irritation or straining, such as diarrhea, colic, bronchitis, threadworms, etc.; and should operations appear to be necessary, it is well to take into consideration the age, the financial condition of the parents, and the irreducibility of the hernia—as the younger the child, the better the chance of a cure without operation; and if the parents cannot afford a long course of treatment, an early operation is advisable; while if a suitable truss cannot be properly applied, or if the hernia is complicated by testis in the inguinal canal, an operation is necessary.

Dr. Heaton further says that he goes no further than to cut away the sac after ligaturing its neck, and does not even suture the pillars of the external ring. In cases of congenital hernia he forms a tunica vaginalis by closing the lowest portion of the sac by means of a continuous suture. With the use of antiseptics such operations are attended by little risk, and the patient should be kept in bed for five or six days to permit the parts to thoroughly consolidate.

Twenty-three such operations have been made by him, resulting in twenty perfect cures, one relapse soon after operation, and two relapses some months afterward—a very good record.

He also says that for children under two years of age the best form of truss is one of soft worsted, of which several should be kept on hand and changed as often as desirable. Above that age a well-made spring truss, covered with leather, should be used, and he advises that it be always applied by the physician himself.

Such a truss should be constantly worn if a cure is to be expected, and the parts should be occasionally bathed with weak alcohol and water to keep the skin from chafing. Care must also be constantly exercised not to permit the hernial contents from descending.

The Interposition of Muscles in Fractures as the Cause of Pseudarthrosis

Among the local causes of pseudarthrosis, unfavorable condition of the bony ends, marked dislocation of the fragments and interposition of foreign structures are the most frequent.

Out of 12 cases of pseudarthrosis operated upon at Bruns's clinic in the last few years, 7 were caused by interposition of muscle. Hence, it must be a recognized fact that this is a very frequent cause of pseudarthrosis.

The histories of these cases are given in detail.

Out of these cases, 4 were of the thigh and 3 of the arm. Crepitation was absent in 6 cases. In all, consolidation occurred after removal of the interposed muscle, the latest in five months.

The author, Waldemar L. Meyer (*Beit. z. klin. Chir.*, XVI, No. 2), tabulated the cases of pseudarthrosis reported in literature, 78 in all. Only those cases were included which were undoubtedly caused by interposed muscles.

Of these, 65 were in males, 13 in females. The average age was 35 years.

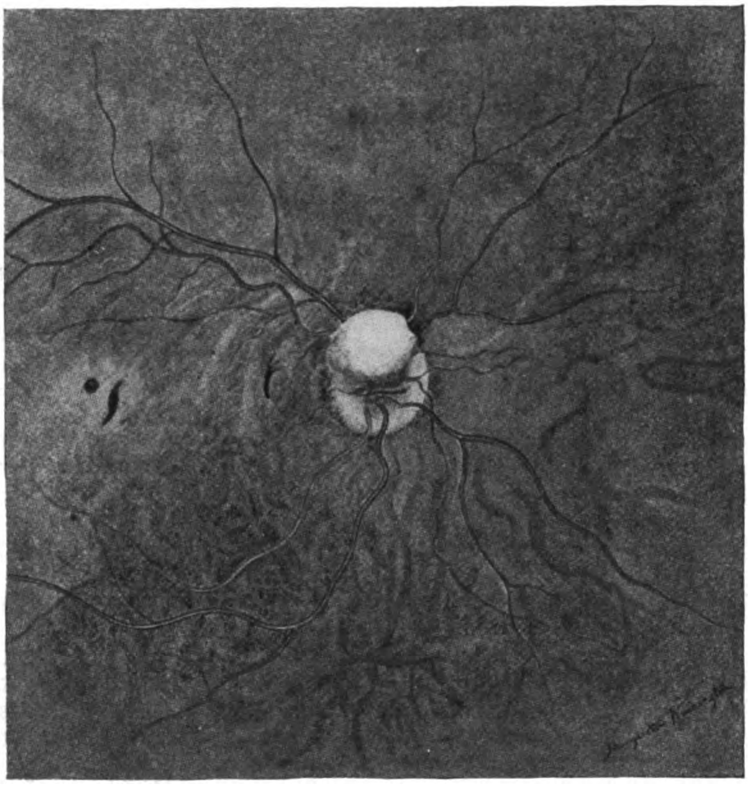
Fractures of the thigh and arm are most likely to show the difficulty. Permanent interposition of muscle is an absolute bar to consolidation. Therefore, it is indicated, as soon as the diagnosis is made, to lay open the seat of fracture, even in fresh cases. The diagnosis may be easy, but at times it is very difficult. The only positive diagnostic sign, in difficult cases, is absence of crepitation. Therefore it is imperative, especially in fractures of the thigh and forearm, to elicit undoubted crepitation, with the aid of narcosis.

EYE, EAR, NOSE, AND THROAT

Cyst of the Right Optic Disk; Choroiditis; Macular Hemorrhage

Risley, in the *Annals of Ophth. and Otol.*, reports the following interesting history of a Polish woman, aged 38, who complained of impaired vision in both eyes and marked tempero-occipital headache; pain being aggravated by exposure to light and by any attempt to use the eyes. Vision was reduced to about 20-200 in each eye. Cornea clear with exception of a few gray opacities. The remaining media were transparent in each eye.

The ophthalmoscopic picture is herewith presented of the right eye; the left differed only in minute details. The macula and the cyst of the optic disk are beautifully portrayed; also the choroido-retinal disease. Myopic astigmatism was present in both eyes. In the picture directly below the disk, but not connected with it, will be noted the remains of the hyaloid artery. Dr. R. does not give any explanation of the probable nature of the mass found upon the nerve, and states that he has never seen any similar appearance, and fails to find any record of a similar case.



Cyst of the Optic Nerve

Serotherapy in Ozena

Arslan and Catterina, in the *Archiv. ital. di Otol.*, IV, 1896, report results of treatment in seven cases. Three were under treatment only a very short time, and details are reported only concerning the remainder. The quantity of serum injected represented from a minimum of 1000 to a maximum of 18500 units. The number of injections was from 10 to 15. The number of days of treatment varied from 54 to 62. The minimum and maximum amount of serum for each injection varied from 500 to 1500 units. The injections were practiced at first daily; then every two or three days; finally once a week—always in the dorsal region. One patient presented, after the sixth injection, a profuse scarlatiniform eruption with a sort of sub-acute polyarthritis.

The action of the serum upon the Schneiderian membrane is undoubted. The injections were followed by frequent epistaxis and congestions of the nasal mucosa, especially in the early days of treatment. The mucosa of the nasal fossæ and of the rhinopharynx, originally pale and white, became vascular and humid. The odor lessened.

The observations of these authors are not as promising as the results given by Belfanti and Dalla Vedova for the same therapeutic procedure, but the former are far from condemning this method. They propose to make a further series of experiments to study the comparative effects of the serum on patients with, and patients without, ozena.

Artificial Membrana Tympani

After rehearsing the history of the artificial drum, from its introduction by Searles in 1841 to the present time, Dr. Vincent Gomez, in an article in the *New Polyclinic*, says that the ordinary blotting paper of proper dimensions, and accurately applied, answers the purpose very well, and that the indications for the employment of the artificial drum membrane are as follows:

I.—When the drum cavity needs protection from the air.

II.—When the ossicula are detached (the result of destruction of their ligaments) or of failure of the membranes to keep them in proper contact, or even a severance of continuity, consequent on relaxation of the ligaments or absence of the incus with a gap existing between the membranes and the stapes. In all these conditions the artificial membrane keeps them in proper position.

The Development of the Test-Card

In the *Cleveland Med. Gaz.*, XI, No. 8, Smith says:

With the earliest attempts at systematic examination of the conditions of eyes and of vision in considerable numbers, the necessity arose for some method of determining the acuity of vision and of recording and comparing the results of various examinations.

In the analysis of a test-card, we may consider four essential points, arranged in the order of their importance as follows:

1. The angle adopted as indicating normal visual acuity.
2. Shape of test objects.
3. Gradation of sizes of objects.
4. Distance at which the chart is to be used.

The distance at which test type may be used depends upon various considerations. The distance at first chosen was 20 feet, which was considered as equivalent to infinite distance, the rays entering the eye from an object at that distance being so nearly parallel that the angle was neglected. With the adoption of the metric system, the distance of six meters was chosen, somewhat less than 20 feet. Later, 5 meters was selected by both Oliver and De Wecker. The author (Smith) suggests 4 meters as a uniform distance, with the allowance in all cases of 0.25 D. as an exact correction for the divergence at that distance.

Accidental Vaccination of Eyelids and Conjunctiva

Rutherford, in the *Quar. Med. Jour.*, IV, part 4, reports the case of a married woman, 28 years old, who had a child four months old recently vaccinated, from whom her eye became inoculated. The lids were congested and edematous to such an extent that they could not be separated. On the skin of the lower lid, about half an inch below the center of its margin, was a circular spot the size of the plane surface of a split pea. Several other spots were also seen on the conjunctiva, close to the inner canthus; another on the lower conjunctival margin, close to the inner canthus; and another on the upper conjunctival margin, about a quarter of an inch from the outer canthus. The whole ocular conjunctiva became deeply congested, and the two vesicles upon it spread in a serpiginous manner, and eventually ran together so as to cover an area half an inch square, white at its margin and having an irregular pale brown patch in its center. The eye gradually improved, and only a small white speck, occupying the position of the vesicle on the upper palpebral margin, alone pointed to any peculiarity in the affection.

Endothelioma of the Nasal Fossæ with Rhinitis Caseosa

Acerbi (*Arch. ital. di Laringol.*) reports the following case:

A young woman with caseous rhinitis, especially on the left side, expelled, two days after curettement of that nostril, a large hard mass like a tumor. Microscopical examination of the mass and of a part of the material removed by the curette, gave the following results: The tumor was made up of a stroma of connective tissue, for the most part alveolar, the resulting lacunæ were lined and filled with cells of various shapes. At certain points these cells were fused together and presented a structure identical with that limiting the lymphatic spaces. The characteristics of the cells were precisely those of endothelial cells, and the latter constituted the predominant character of the mass.

The material removed by the curette was formed of the same elements, necrosed for the most part with pus and blood at the periphery. In this case the author believed that he had to do with a tumor, endothelial in nature, localized in the nasal fossæ. As to the relations between the tumor and the masses removed, he was in doubt. If the tumor was one of the nasal mucosa, one would have found, at least in the cheesy masses, more characteristics of the mucosa, which was not the case. The very rapid cure of the condition negatived the idea that the neoplasm was a true derivative from the nasal lining.

The author advances the view that possibly the tumor may have changed its nature and may originally not have been a tumor of the nasal fossæ at all. It probably became attached to the middle turbinate, and the attachments were softened and destroyed by the caseous mass, which also macerated somewhat the outer cortex of the tumor, so that finally it came to lie free in the nasal chamber.

Nasal Polypus in an Infant

Dr. A. Rupp, in the *Med. Rec.* notes the rarity with which growths of this nature are found in children. The case he cites was a female infant four months of age. The child had difficulty in nursing. The patient's father had heard something flap up and down in the left nostril. On examination, the writer found a pinkish pedunculated polypus, large enough almost to occlude the left nasal vestibule. It was friable and attached high up. No syphilitic or catarrhal history could be obtained. The tumor was extirpated, followed by a good result.

New Operation for the Correction of Deflection of the Nasal Septum

After giving the histories of the various operations for the correction of this deformity, Dr. C. B. Gleason gives in *The Laryngoscope* the technique of his operation as follows:

"A Bosworth saw is introduced into the obstructed nares, close to and parallel with the floor of the nose. The septum is sawn transversely until the teeth of the saw have penetrated the cartilage. The direction of the sawing is then changed until it becomes nearly vertical. Carefully retaining the saw in a position parallel to the intermaxillary suture, the sawing is continued until a U-shaped incision has been made through the septum, surrounding, except above, the whole deflected area of the septum. As a result of the sawing a button-hole is produced with beveled edges through the septum, covered by a tongue-shaped flap. From the lower end of the flap, and from the portion of the septum on the concave side below the U-shaped incision, the mucous membrane is removed with the end of the saw or a knife, and the flap is thrust through the button-hole in the septum with the finger-tip."

The writer states that the success of the operation depends largely upon the care that is exercised in pushing the flap far enough through the septum to enable its lower edge to completely clear the lower edge of the button-hole. The resiliency of the septum holds the denuded surfaces firmly in contact.

Various Gauzes, Especially the Naphtolated, in the Treatment of Otitis Media Purulenta

Fougeray, according to the *Rev. hebdom. de Laryng.*, 1896, No. 32, experimented with five antiseptic gauzes, namely, iodoformized, sublimated, borated, and chinoline-naphtolated of Haug, in 73 cases of purulent otitis media.

I.—Iodoformized gauze is irritating, and certain patients are very susceptible to its action. A single dressing may produce inflammation of the canal and eczema, or if less active, the irritation may cause congestion of the membrana tympani. The suppuration, instead of diminishing, increases, or at least remains unaffected. This irritation is due to the liberation of iodine vapor under the influence of the temperature of the external canal. In spite of its antiseptic power, iodoform gauze ought to be rejected.

II.—Sublimated gauze has the same drawbacks. Moreover, the commercial gauze frequently contains no sublimate, but insoluble suboxide of mercury.

III.—Salicylated gauze is just as irritating, and produces inflammation of the walls of the meatus.

IV.—Borated gauze undoubtedly is the least irritating of the gauzes employed, but it can cause a certain amount of irritation, and its antiseptic power is very feeble.

V.—Naphtolated chinoline gauze was introduced in 1893 by Dr. Haug, Privatdocent in the University of Munich, and it has given and is giving him the best results. The gauze contains 5 per cent. chinoline and 2½ per cent. naphtol, and is of a yellowish white color. The salt has a peculiar not unpleasant odor, is highly antiseptic, and is soluble in pus. The gauze was employed 684 times upon 74 patients without giving rise to the slightest irritation. On the whole, this gauze seems to be the best, and the author recommends it strongly.

OBSTETRICS AND GYNECOLOGY

Urinary Incontinence in Commencing Cases of Uterine Prolapse

The *Edinburgh Med. Jour.* for December quotes from the *Annales de Gyn. et d'Obstet.* to the effect that Dr. Boursier emphasizes the frequency of urinary incontinence in the early stages of prolapsus uteri. The incontinence may be true or false, with or without pain, but it is always manifested in the upright posture, is exaggerated by strain or fatigue, and it usually disappears when the woman lies down. It appears to be always due to a urethral lesion, and this being the case, operations for the correction of the urethra are indicated. In a patient with a tear of the cervix and perineum from forceps the urinary symptoms were well marked, and at one sitting Dr. Boursier curetted the uterus, amputated the cervix, did a colpoperineorrhaphy, and performed urethral incision and elevation according to the method of Pousson. The patient was quite cured of both the prolapsus and the urinary incontinence. In another case in which the lesions were similar the urethral operation was omitted, and although the cure of the prolapsus was complete the incontinence of urine remained.

The Relative Frequency of Pelvic Contractions

Fancourt Barnes, of London, in the *Med. Press* (LXII, No. 2997), suggests the probability that deformities vary in kind and degree in different countries as they certainly vary in frequency.

In England the poorer classes are better fed, clothed and housed than in most of the countries on the Continent, and the general hygienic condition is superior, thus accounting for the relative decrease in pelvic deformities.

During a ten years' experience at the Royal Maternity Charity, of London, in which 38065 women were delivered, no case presented for Cesarean section. Craniotomy was only necessitated in fifteen cases. Version as a means of delivery was employed in seventy-four cases. Forceps was used to effect delivery in 196 cases. Out of the whole number of women delivered, eighty had died.

In London, the simple flat pelvis is, in the experience of the author, by far the most common, and next to this the non-rachitic with small conjugate, and the flat rachitic contracted in all diameters. Furthermore, it has been the exception to see any other form of distortion of the pelvis. In the measurement of the pelvis, the hand alone is invariably used.

Ample testimony is afforded by the foregoing statistics to warrant the statement made by the author of the infrequency of pelvic distortion in London. Moreover, it must be borne in mind that in the clinic above referred to, a large proportion of pelvic contractions occurred in recently arrived foreign immigrants.

Upon the whole, the experience in the Royal Maternity Charity is equally true of the British Lying-in Hospital for the past seventeen years.

The moral of this is, that the real treatment of contracted pelves consists in preventive treatment.

Pan-Hysterectomy

M. U. O'Sullivan, in the *Australasian Gaz.*, No. 182, expresses himself strongly in favor of complete extirpation. Three cases are reported, of which the following is typical:

Case 1.—Rose S——, aged 40, single, housemaid, native of England, was admitted to the Women's Hospital July 8, 1896. First catamenia at age of twelve, regular up to two years ago. Menses irregular, profuse, painful during past two years. During past three months complained of severe pain in right iliac fossa and sacral region, frequency and pain in micturition, bearing down, etc.

On examination, a rounded median tumor of hard consistence, filling the pelvis and extending above umbilicus. The cervix uteri was pushed far back in the hollow of the sacrum.

The patient was prepared as for celiotomy and vaginal hysterectomy, placed in the lithotomy position, and the lower limbs separated by assistants.

A Sims' speculum was passed, and the vagina thoroughly scrubbed with a 1 in 500 perchloride solution. The cervix was now grasped with the "combined vaginal forceps and director," the blades of which were firmly locked, and the patient returned to the supine position.

The abdomen was opened by a free incision, extending from above the umbilicus to within a short distance of the pubis, and the tumor "delivered"—this being very materially facilitated by an assistant steadily pushing the tumor and uterus towards the abdominal cavity, on the forceps and director, within the cup-shaped end of which the cervix sits, firmly held. There is a decided advantage in being able to dispense with the ponderous prehension forceps, generally used for elevating uterine fibroids through the abdominal wound during operation, and so prevent the annoying hemorrhage which sometimes takes place from forceps punctures of such tumors.

The broad ligaments were divided between two rows of ligatures, and the usual peritoneal flaps dissected down off the anterior and posterior surfaces of the uterus with blunt scissors and finger.

The uterine arteries were now easily picked up on an aneurism needle, and secured—outside the reflected peritoneum.

The vagina was opened by running a knife around the cervix, within the hollow of the vaginal director, which was still steadied by an assistant and easily felt.

Instead of suturing the peritoneal flaps after the manner of Martin, Treves, Smith and others, about a half-dozen long silk sutures were passed through the edges of the peritoneal flaps and drawn into the vagina, as suggested by Bowreman Jessett, thus completely closing the peritoneal floor. With a Sims' speculum the vagina was well packed with iodoform gauze, firm traction being kept up on the flap sutures during the packing.

The abdominal wound was closed with deep silkworm gut and superficial horsehair sutures.

The bowels were freely opened on the second day with mag. sulph., supplemented by irrigation of lower bowel.

The packing (vaginal) was removed on the fourth, and the sutures on the eighth day.

The patient made a perfect recovery, and left the hospital, quite well, on August 27.

Whenever it was thought advisable to drain the peritoneal cavity, after panhysterectomy, O'Sullivan has generally done so with a Keith's tube, passed *per vaginam*, between the edges of the peritoneal flaps. In a few cases he has used a strip of sterilized iodoform gauze, with the best results.

Relative Advantages of Forceps and Version in Moderate Pelvic Contraction

In a discussion upon this subject at the recent meeting of the British Medical Association, reported by Dr. Milne Murray, of Edinburgh, in the *Univ. Med. Jour.* (1896, X), the doctor stated that, by the use of forceps, intra-uterine manipulation is avoided, and also the dangers of compression of the cord and traction on the neck, to which the child is exposed after the performance of podalic version.

In cases of flat pelvis, the difficulty of delivering the head through a flattened brim, by means of long forceps, was that they did not enable traction to be made in the axis of the inlet. By the use of axis-traction forceps this difficulty is overcome, the line of traction being made to coincide with the axis of the inlet, and the angle of error is thus abolished; with such an instrument he has delivered, on several occasions, living children through a conjugate of 3¼ inches. A pair of forceps made to coincide with the curve of the normal pelvis, is not quite suited for cases where the pelvis is flattened. It was his belief, furthermore, that any case in which turning is indicated can be more safely dealt with by means of axis-traction forceps.

Tuberculosis of the Ovary

Bruno Wolff, of Frankfurt-am-Main, in *Archiv. f. Gyn.* (LII, No. 2), after going over the literature of this subject tells how he has examined the ovaries of seventeen subjects suffering from tuberculosis of other organs, in order to determine the relative frequency of tubercular affections of these organs, the form of the lesions, and the primary seat of the disease.

In three of the seventeen cases the ovaries were involved, and in all these cases the following characteristics were observed:

1. A general tubercular peritonitis was present.
2. The ovaries were free from peritoneal adhesions.
3. Both ovaries were diseased.
4. The six ovaries had the same kind of tubercular lesion, namely, small miliary tubercles.

There were no macroscopic changes.

In three other cases of general tubercular peritonitis, the ovaries were covered by a mass of adhesions and were found to contain no tubercular deposits.

These observations lead the author to believe that cases of general tubercular peritonitis in which the ovaries are not covered by adhesions are especially liable to have tuberculosis of the ovary, and that this condition is much more common than is generally believed, as the ovaries showed macroscopic changes and are liable to be overlooked.

The lesions, for the most part, are fine miliary tubercles, situated, usually, in the cortical substance of the ovary and showing but little tendency to undergo cheesy degeneration. The tubercles are surrounded by a thick capsule of connective tissue, which sends trabeculæ into the center of the lesions, and is believed to be a conservative process favoring a cure of the trouble.

The Graafian follicles were not affected in any case.

The primary affection in these cases seems to be the peritoneum.

BACTERIOLOGY AND PATHOLOGY

Relation of Virulence to the Number of Bacteria in a Cholera Culture

The fact, as discovered by Gruber and Wiener, that a certain quantity of a young (20 to 24 hours old) culture of cholera bacilli is more virulent than an equal quantity of an older culture, Drs. Gotschlich and Weigang (*Zeit. f. Hyg. u. Infectkh.*, XX) explained by assuming that young cultures only have full virulence, and that, by continued growth on the same medium, this rapidly diminishes. The authors of the present paper, however, have shown that the enormous diminution in the number of viable organisms was sufficient to account for the diminished virulence. Three cultures contained the following number of bacteria in 2 mg.:

20 hours old—	1,034.000,000	1,000,000.000	576,000.000
44 hours old—	111,000,000	47,000,000	36,400,000
3 days old—	7,800,000	11,000,000	2,600.000

In certain experiments, between 200 and 300 million viable organisms caused death when introduced into the peritoneal cavity of guinea-pigs. Furthermore, it was shown that the poison of the dead organisms was completely out of the question. The authors repeated the experiments of Gruber and Wiener. They found that when the bacilli were transmitted from the peritoneum of one guinea-pig to that of another, instead of losing virulence, the latter was slightly increased.

Experiments with Cholera Vibrios

Nature (No. 1419) informs us that "some experiments have been made by Wernicke on the vitality of cholera vibrios under particularly interesting conditions. A model aquarium was constructed, and in it water-weeds of all descriptions were planted; it was supplied with fish, and there was no lack of ordinary water bacteria, in addition to which about five milliards of cholera germs were introduced. The vessel and its contents stood in the laboratory, and were exposed to both diffused light as well as to direct sunshine. Nearly three months after the cholera vibrios had been added, they could be detected in the water, as also on the water-weeds; whilst even after the lapse of three months they were isolated from the mud at the bottom. Later, however, all traces of them disappeared. Wernicke is of opinion that mud affords a very suitable nidus for the preservation of cholera vibrios, and believes that, had he allowed less light to gain access to his glass vessel and its contents, he would have identified them even longer; doubtless in the beds of rivers they would preserve their vitality for a considerably longer period. No alteration, either in their morphological or biological functions, could be traced in these cholera vibrios in consequence of their surroundings; but whilst Wernicke states that they were highly virulent when they were first introduced, he unfortunately omits to say if their pathogenic properties suffered any diminution in the interval."

Parasites of Pertussis

The *Amer. Jour. of Med. Sci.* (CXII) states that Kourlow, in *Vratch* (No. 3, 1896), ascribes whooping-cough to a ciliated ameba described by Deichler in 1886. It is best detected in the mucus of the early stage, before the discharge becomes purulent. The organisms are unicellular, varying in size from half that of a red blood corpuscle to that of a leucocyte, or even larger. One side or two opposite sides are covered with long ciliæ which are in constant motion, and give to the bodies a rapid oscillatory movement. These movements cease when the liquid under examination becomes cold, but they may be observed for a long time upon the warmed stage. These corpuscles are clearly visible, even when immovable. They may be stained with Ziehl's carbol-fuchsin. In dry preparations the bodies are small, but their ciliæ remain clearly visible. At a later period, in the purulent expectoration, these bodies are much fewer and very difficult to find; but there are now present, in great number, small, round, highly refracting bodies, concentrically striated like starch-granules. These are of variable size, the largest attaining a diameter double or triple that of the red corpuscle. In the larger ones can be seen a strong double envelope containing protoplasm, with a central ovoid nucleus and brilliant nucleolus. The smaller bodies have only a thin ring of protoplasm, so that the envelope, protoplasm, nucleus, and nucleolus give the appearance of concentric rings; they are either isolated, grouped, or heaped up in large granular cells.

Bacteriological Diagnosis of Leprosy

Doctors Johnston and Jamieson, of the Board of Health of the Province of Quebec and the Montreal General Hospital, report in the *Mont. Med. Jour.* (XXV, No. 7) three cases illustrating the value of bacteriological diagnosis in leprosy. The first was a Chinaman of 27, that was brought in a dying condition to the hospital. External examination at the autopsy showed a gangrenous, ulcerated area two inches in diameter, involving the skin over the right elbow, surrounding which the tissues were thickened, firm and nodular. Numerous firm nodules were seen on the skin, over the face, extremities, back, and genitals ; over the surface of the glans these were especially well marked.

The nodules on excision showed no signs of necrosis or suppuration and appeared to be chronic. The cellular tissue of the right upper arm was edematous, with ecchymosis in the course of the lymphatics, and during the autopsy numerous ecchymosed areas, varying from two to six inches in extent, were found in regions which excluded the idea of their being the result of contusions. The most marked ecchymosis was beneath the right iliac and psoas muscles.

Bacterial examination of these ecchymoses showed a few short, thick bacilli (Proteus) staining by Gram's method ; no micrococci.

The gangrene of the skin and the septicemia were considered a sufficient cause of death. The skin eruption did not correspond with syphilis, lupus, or other ordinary skin disease. Leprosy was suspected. A cover slip was prepared by smearing with a drop of the juice obtained by scraping a nodule. On staining this with carbol-fuchsin and decolorizing with sulphuric acid and methylene-blue (Gabbett's fluid), innumerable, slender, red rods were seen, many of them arranged in the peculiar clumps designated as lepra cells. Preparations from the nodules in the testicle and from sections of the skin showed numerous lepra bacilli. Cultures from the smaller nodules of the skin on Löffler's serum and glycerin remained sterile. Inoculation of a small nodule into the anterior chamber of a rabbit's eye, showed at the end of three months a nodular exudate over the anterior surface of the iris. No signs of tuberculosis appeared in the animal.

The advantages of this means of diagnosis are apparent, in that the examination of cover slips thus established the nature of this case with certainty in a few minutes, whereas without this, neither the post-mortem nor the clinical examination by the house physician or the physician in attendance, had led to the discovery of its real nature.

The bacteriological method appears to be thus eminently adapted for the examination of any doubtful case of skin disease which may be leprosy, as the bacilli are certain to be found in large numbers in cover slips prepared from the material obtained on scraping the nodules of the skin.

The microscopic resemblance between the leprosy and tubercle bacilli should not form a serious source of error, as in tuberculous lesions of the skin the bacilli are always very scanty, and usually only a few are found in the entire cover slip, while in lepra each microscopic field shows enormous numbers of them. The lepra bacilli also readily stained by the simple aniline dyes, while tubercle bacilli did not.

The second case was a mulatto hotel waiter, who, after three years' treatment for syphilis, finally came to the skin clinic of Dr. Sheperd, where Dr. Johnston had an opportunity to make a diagnosis of leprosy by a bacteriological examination. The third case was that of a Chinaman who was supposed to be a leper, but bacteriological examination showed no lepra bacilli and it turned out to be one of psoriasis.

Who Discovered the Coccus of Pemphigus Acutus ?

According to the *Bulletin of Pasteur Institute* an article appeared in one of the recent numbers of the *Brit. Jour. of Derm.* (VIII, No. 6) under the heading of "Acute Pemphigs; A Contribution to the Etiology of Acute Bullous Eruptions. By George Pernet and William Bullock." The conclusions drawn by the authors from cases observed by them, read as follows, according to the A. M.-S. BULLETIN of Nov. 21, 1896:

1. There is a group of rare cases of acute bullous eruptions, accompanied by severe constitutional symptoms, and generally terminating fatally, which affects butchers.
2. The disease follows a wound of the hands or fingers.
3. It is probably due to a micro-organism.
4. The same etiological factors are probably at work in another group of very similar cases. in which the patients are brought into contact with animals or dead portions of animals.

Their views are supported by bacteriological results, and they believe it is the same micro-organism originally described by Demme and latter by Clæssen.

The coccus found by them was neither the streptococcus nor the staphylococcus, and it was pathogenic for guinea-pigs.

We have already noticed that recent textbooks on bacteriology give credit to Demme for the discovery of the coccus of pemphigus acutus. Among these is the "Manual of Bacteriology," by Gen. Geo. M. Sternberg, who quotes Demme as having been the first to describe this bacteria, in 1886. As a matter of fact, the coccus of pemphigus acutus was described for the first time by Dr. Paul Gibier, who recognized its presence in the liquid of the bullæ and in the urine of the patient ("Société de Biologie," 1881; *Annales de Derm. et de Syph.*, 1881). The same author gave a drawing of that micro-organism in a book which he published in 1884 ("La Rage et son Traitement," Paris). The matter is one of small importance, but . . . *Suum cuique*.

Human and Avian Tuberculosis Alike

According to the *Diet. and Hyg. Gaz.* (Dec., 1896), the bacteriological experiments of MM. Gilbert and Roger, recently published, show conclusively that the tuberculosis of human beings and of birds is one and the same disease. Observations made by Cadiot and Strauss also confirm this fact.

Mouth Protection Against Bacterial Invasion

H. Bourges, in the department of experimental pathology of the *Rev. des Sci. Med.*, gives a brief review of A. Hugenschmidt's experimental studies of the different methods adopted by the cells for the protection of the buccal cavity against the invasion of the pathogenic bacteria, as described in his *Thése de Paris* (1896). Dr. Hugenschmidt doubts the claim that the saliva possesses bacteria-killing properties, and also its rôle in weakening the virulence of pathogenic microbes. He thinks that the protection against bacterial invasion is due to the following conditions:

1. The chemical properties of the saliva and the soluble products of the microbes contained therein excite an intense diapedesis which is carried on in the mouth, and which attains its maximum at the surface of wounds, bathed by saliva.
2. The mucus of the buccal cavity, when there is a suspension of the secretion of saliva, possesses bactericidal properties.
3. Incessant epithelial desquamation.
4. Vital concurrence eliminating the bacteria, not acclimated.

Putrid Injections in Infectious Diseases

According to Chelmonski, in *Deut. Arch. f. klin. Med.* (LVII), as abstracted by *Rev. des Sci. Med.* (No. 97), the injection of extract of putrid meat exercises a beneficent influence upon such infectious diseases as typhoid fever, petechial typhus, erysipelas, and pneumonia. It causes a diminution of the fever and a general amelioration of the disease symptoms, with increased urination. This is explained as being due to its power of increasing the resisting force of the organism through the nervous system against pathogenic bacteria. The author adds that as a remedy it cannot be used indiscriminately, owing to its instability and partly unknown composition.

THERAPEUTICS AND PHARMACOLOGY

Brief Notes on New Remedies

Duotal is a new name recently given to guaiacol carbonate by its manufacturers.

Malandrin is a homeopathic remedy, said to be obtained from grease, and recommended by Dr. Burnett as a preventive against variola.

Hermitin is described as an electrolyzed sea water, useful as a surgical antiseptic and disinfectant—its power most likely residing in the free chlorine it contains.

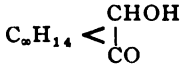
Saliformin is formin (hexamethylenetetramine) salicylate, and, like the uncombined base, is used therapeutically as a uric-acid solvent (in gout, gravel, calculus, etc.).

Fango is the mud from the hot springs of Battaglia, Italy, and of late is used as a remedy in gout, rheumatism, female diseases, etc., in the form of external applications.

Citrurea is said to be a mixture of urea, citric acid, and lithium bromide, that has been recently introduced in Germany as a uric-acid solvent and diuretic. It is on the market in the form of tablets.

Myelene is an extract obtained from both red and white fresh marrow, from cattle, and is in the form of a reddish, syrupy fluid. It is used in rachitis, scrofula, necrosis, and in pernicious and simple anemia.

Oxycamphor is an oxidation product of official camphor, having the formula



$$C_8H_{14} < \begin{matrix} CHOH \\ | \\ CO \end{matrix}$$

It is soluble in water, and its use is recommended by Dr. Heintz, in dyspnea and psychical excitations.

Guethol is the name applied to a new analogue of guaiacol, being the ethyl ether of pyrocatechin, whereas guaiacol is the methyl ether. According to Prof. J. v. Mering, guethol has a better effect than guaiacol; its therapeutic indications are the same as those of the latter remedy.

Klemmolin is the trade-marked name of a polypharmacal preparation made in Germany, that is intended for use in rheumatism. It is said to be made from pine tops, poplar buds, hemlock tops, orange peel, lemon peel, arnica flowers, white nettle, mullein flowers, myrrh, red rock-oil, Venice turpentine, oil of rosemary, oil of rue, and alcohol.

Oxyphenacetine Salicylate crystallizes from alcohol in shining leaflets, melting between 132° and 134° C. It is said to be made by the interaction of chloro- or bromo-phenacetin, and sodium salicylate, produced by heat. The by-effects usually accompanying the adminstration of any of the components are said not to be observed with this new remedy. Clinical data are yet wanting.

Paraplast is the name given to another of Dr. Unna's ever-increasing number of external applications. Paraplast is intended to replace and be used in a similar manner to the gutta-percha mull so popular with dermatologists. It consists of a very fine and thick cotton web, on which a plaster mass, consisting of lanolin, resin, gum dammar, and caoutchouc, is spread. It is said to be not in the least irritating. Various medicaments may be added to the mass to the extent of 40 to 65 per cent.

Anusol, also known as bismuth iodoresorcinsulphonate, is recommended for use in hyperemia of the mucous membrane of the rectum and in hemorrhoids. The remedy appears on the market in the form of suppositories, that are said to be free from all narcotics, and to yield excellent results in painful tenesmus, catarrh of the rectal mucosa, anal fissure, pruritus vaginae, etc.

Arginine is a base of the formula $C_6H_{14}N_4O_2$. It was first produced by Hedin as one of the products resulting from the action of hydrochloric acid upon protein substances, but has since been detected in the blanched sprouts of lupinus luteus, and is now found by Schulze to occur in the tubers and roots of various plants (such as brassica rapa, helianthus tuberosus, ptelea trifoliata, etc.). Pharmacological data are yet wanting.

Colligamen (from *colla* and *ligamen*) is the name given by Dietrich to a variety of bandages prescribed by Dr. Unna, prepared with glycerin and a glycerin-zinc paste, and impregnated with seventeen different medicaments to suit various conditions. These bandages are made in lengths of 1, 2, and 5 m., and are 6 ctm. wide. They are designed to obviate the inconvenience of spreading the paste dressings heretofore used by Unna, as well as the rather unreliable medicated soaps.

Nutrose is described as a sodium salt of casein, which, in this case, acts like an acid. It is said to be prepared by evaporating an alkaline solution of casein *in vacuo*, by precipitating an alkaline solution of casein with acetone, or by exhausting a mixture of casein and alkali by boiling with alcohol. Nutrose occurs as a fine, white powder, easily soluble in warm water, and yielding slightly opalescent solutions. It is also completely soluble in an excess of diluted acids. Its nutritive value has been established by Röhmann, Salkowski, v. Noorden, Bornstein, and Markuse.

Glycerino-Phosphates in Sciatica

According to Dr. Billard, in the *Med. News* (LXIX), solutions prepared according to the following formulæ are used by the writer with great success in sciatica:

Calcium Glycerino-phosphate	5 gme.
Distilled water	25 gme.

or:

Calcium Glycerino-phosphate	1 gme.
Magnesium Glycerino-phosphate	1 gme.
Potassium Glycerino-phosphate	1 gme.
Sodium Glycerino-phosphate	3.25 gme.
Distilled Water	25 gme.

These concentrated solutions possess the advantage that they keep indefinitely, whereas a weak solution decomposes. The solution should be put up in small tubes or vials, containing 2 c.c. each, so that fresh fluid may be used for each injection. From 1 to 2, or even 4 c.c. are injected, under careful asepsis, in the seat of the pain. The effect is an almost immediate relief of the pain at the point of injection. In recent neuralgias, a single injection may suffice to bring about a cure. In more chronic cases, as in chronic sciatica, it is necessary to repeat the injection daily for a considerable time, and in some cases no lasting benefit is noticed. These injections are absolutely harmless, and usually produce no disturbance at the point of injection. The action of the drugs injected is not simply a local one, but they also have a beneficent influence upon the general nervous system.

A New Antiseptic and Disinfectant

A process has been patented in Germany for a new antiseptic and disinfectant, that is made by boiling together an alcoholic solution of 2 molecular weights of ortho-oxyquinoline with 1 molecular weight of potassium or sodium pyrosulphate for 10 or 12 hours, until the reaction is completed, i. e., until the mass no longer contains free oxyquinoline and pyrosulphate. The product thus obtained is freed from alcohol in the cold, dried and powdered. It is described as odorless, non-irritating, and non-poisonous, and as possessing decided bactericidal powers. Its exact chemical constitution is not as yet known. It is quickly soluble in all proportions in water, and the aqueous solution is credited with the property of dissolving phenols (for instance, creosol or resorcin) in any desired proportion, and retaining them permanently in perfect solution.

Antibacterin—An Antitubercular

Antibacterin is a new remedy tried in infectious diseases, particularly tuberculosis, by Dr. V. Wachter, of Frankfort-on-the-Main. It consists (*Pharm. Ztg.*, XLI) of a "ferruginous ethyl-orthoborate compound," and is intended to be used in the form of inhalation. Upon exhaling, a cloud of boric acid is ejected from the nose and mouth. The remedy is in the form of a pale greenish-yellow fluid, and, according to the writer, is non-poisonous. It is advised to begin with inhalations of 10 gme. daily, increasing to 120 gme. per day.

No other definite clinical data are as yet to hand.

This antibacterin must not be confounded with the antibacterin of Stier, which has been stigmatized as a mixture of crude aluminum sulphate and soot.

Mydrol—A Mydriatic

The name "mydrol" has been given by Barbiano (*Pharm. Centralh.*, XXXVII) to iodomethylphenylpyrazolone, a white, odorless, bitter powder, easily soluble in cold water or in alcohol, and insoluble in ether. Mydrol retards the pulse and causes mydriasis. According to Cattaneo, the latter phenomenon is slowly produced, but is very persistent, and the mydriasis produced by a 5 to 10-per-cent. solution, though not so complete as that caused by atropine, is yet sufficiently so for the purposes of observation. It is also claimed that mydrol is non-poisonous, and causes no disagreeable by-effects.

Care should be taken not to confound mydrol with mydrine, the latter being a combination of the alkaloids ephedrine and homatropine.

Formin—Diuretic and Uratolytic

Formin has the chemical constitution of hexamethylene-tetramine and appears in crystals, readily soluble in water, slightly so in alcohol.

Dr. A. Nicolaier (*Deut. Med. Woch.*, XXI) has observed that formin possesses marked diuretic, as well as uratolytic (uric-acid solvent) properties. During its administration, the urine remains acid to test paper, diuresis is increased, and precipitates of urates and of uric-acid crystals cease to be produced.

That this latter action of the drug is not due to the increased diuresis, but to a direct action upon the uric acid and its salts, the author proves by the fact that in some special cases where the remedy does not exert its regular diuretic effect, its uratolytic property is nevertheless manifested. The urine of patients to whom formin is administered is capable of dissolving uric-acid concrements.

As regards dosage, the author found that 2 gme. (31 grn.) daily doses, given for a long time, produced no untoward effects. He now employs formin in daily doses of from 1 to 1½ gme. (15½ to 23 grn.) dissolved in water and taken in the morning.

He has thus obtained encouraging results in several cases of urinary calculus. The remedy was never noticed to have any deleterious effects upon the kidneys, even when given in larger doses. In one case, where albumen was present, besides casts and blood corpuscles, the treatment considerably reduced the quantity of albumen in the urine.

Dr. Nicolaier observed that urine from patients who had taken formin remained clear at 37° C. (98.6° F.) and kept its acid reaction for several months, even upon addition of a few drops of urine which had undergone ammoniacal fermentation. This induced him to try formin in diseases of the bladder and urinary tract, of bacterial origin. He accordingly administered it in two cases of cystitis, with strongly ammoniacal urine, and obtained rapid and good results in both. In these cases, daily doses of from 0.5 to 1.5 gme. (7½ to 23½ grn.) were found sufficient to arrest ammoniacal fermentation of the urine in the bladder.

Tannalbin in the Treatment of Children

Dr. Soliner, in *Der Kinderarzt* (No. 10, 1896), descants on the value of tannalbin in the treatment of children troubled with acute and chronic enteritis, and gives a report of several cases showing its excellent effects in such affections.

Altogether, ten children were treated with this remedy, the dose ranging from 0.1 gme. for a 10-months-old child, to 0.3 gme. in a child 3 years old. The results in every case were very satisfactory, leading to a cure in from three to nine days.

Tannalbin, he further says, is indicated wherever catarrhal affections of the intestines exist, and exerts its antiseptic and astringent properties even to the lowest portions of the large intestines. Other intestinal antiseptics are dissolved in the stomach, where part of their value is lost, besides being absorbed and acting poisonously on the mucous membrane and organism; whereas with tannalbin such is not the case.

REVIEWS

Anomalies and Curiosities of Medicine: Being an Encyclopedic Collection of Rare and Extraordinary Cases, and of the Most Striking Instances of Abnormality in All Branches of Medicine and Surgery, derived from an Exhaustive Research of Medical Literature from its Origin to the Present Day, Abstracted, Classified, Annotated, and Indexed.—By George M. Gould, A.M., M.D., and Walter L. Pyle, A.M., M.D. Imperial Octavo, 968 pages, with 295 Illustrations in the Text, and 12 Half-tone and Colored Plates. Phila.: W. B. Saunders, 925 Walnut Street; 1897. Prices: Cloth, $6.00 net; Half Morocco, $7.00 net. Sold only by Subscription.

This is certainly a most remarkable and interesting volume. It stands alone among medical literature, an anomaly on anomalies, in that there is nothing like it elsewhere in medical literature. It is a book full of revelations from its first to its last page, and cannot but interest and sometimes almost horrify its readers. No novel ever captivated this reviewer with so much genuine interest. Its pages are full of comedy and tragedy, not of the cheap stage type, but of the deeper kind that the ancients were prone to believe the gods dealt in. As leaf after leaf is turned over, one wonders how the authors ever discovered so many of the strange, grotesque, horrid things of life. Carlyle once found himself wondering what a dignified, strutting crowd of aristocrats in a ball-room would look like if suddenly and magically divested of every shred of covering. Here we have Nature in her nakedness, and as we gaze upon her, astonishment keeps us from either laughing or crying at the revelation. What if all these creatures could be made into one community instead of being hidden amid the great multitude? What an awful caricature of humanity it would be? How terrible the impeachment of Nature it would bring? Every law, every principle of symmetry, every fitness of biology, every trend of morality, everything pleasing to sight and sense violated and tortured in a manner that is sickening on one hand and amusing on the other. Such a sight would enable us to realize the feelings of the devout worshipper of the veiled prophet when she saw his features in all their hideousness. Did Byron intend his poem for a parable of Nature? This volume seems to sustain such an idea. It is well that it ends with a chapter on Historic Epidemics, for surely these would be needed in such a community to make way for those fitter to live and fill the earth. Such a work as this is no mere volume of curious reading, so far as medical men are concerned. Every page is a study with a profound lesson of instruction for him. Science is born of measurements. Nothing is really known by us until we have seen its extremes and taken its dimensions and other constants into our minds. A fly neither sees nor knows the table on which it walks, because of its restricted vision. We can stand back and take into our eyes the picture of the whole object in a way that we can truly say we know it. The physician who has not seen the extremes of disease, or acquired a knowledge thereof from those who have, really does not know disease, however much he may think he does. The broad and perfect view is only possible when extremes are understood. This volume gives these extremes as no other has ever attempted to do. Whatever our department of medical study may be, here we will learn something new regarding its extremes. Anomalous nervous and mental diseases, anomalous skin diseases, anomalous types and instances of all sorts of diseases, anomalous surgical and genito-urinary cases, and anomalous physiological and functional cases of every conceivable kind are here reported in detail. Atrophied organs, cases of arrested development, cases of excessive development, monstrosities, and a multitude of facts such as evolutionists delight in, are all here given in abundance. Strange perversions of the organs of generation, strange and apparently wholly impossible pregnancies, strange deliveries, strange conceptions, strange accidents to pregnant women, and strange prenatal occurrences, all add interest and value to the book. To anyone who wishes to study fully, or to write understandingly on almost any medical subject having broad philosophic bearings, such a book is simply indispensable.

The Surgery of the Chest: By Stephen Paget, M.A. Oxon., F. R. C. S. Illustrated. Bristol, Eng.: John Wright & Co.; New York: E. B. Treat. Cloth, price $2.75.

This work is particularly welcome, because it is the first complete book on the whole subject of the surgery of the chest ever published in England. Based largely on Mr. Paget's own experience, and containing a translation of the address of M. Réclus before the French Surgical Congress of 1895, the book covers the field completely to date.

While, owing to the peculiar excellence of the book in its entirety, it is difficult to select portions of especial value, we would particularly mention the chapters on Empyema, Wounds of the Diaphragm, Diseases of the Bronchial Glands, and Diseases of the Lungs and Pleura, as presenting views of scientific interest.

Throughout the book are introduced cases illustrative of the subject discussed, which are of great value. The author has collected and tabulated many reports of cases covering the principal work done in this field for the past fifteen years.

The book is well written, and important statements are fully and carefully explained, or enlarged upon by foot-notes. Nowhere does the author, though for many years an authority on his subject, obtrude his own views, but gives thorough discussions of and full references to, the differing opinions of others.

An important place amongst the reference books on this subject will be occupied by Mr. Paget's work. The book itself is well bound and printed upon fine, heavy paper. The illustrations are excellent, all, except one or two, being from original drawings by Mrs. Paget.

Leprosy and the Charity of the Church: By Rev. L. W. Mulhane. Illustrated. Chicago and New York: D. H. McBride & Co.

This little book, while laying no special claim to originality, is a careful compilation of facts collected in reference to the awful scourge of leprosy, and the work which is being done for the afflicted people through the medium of the Church.

Added to a history of the disease, ancient and modern, the author describes in some detail the work of Fathers Damien, Pamphile, Conrady, Müller, and others, and in our own country (the leper colony in Louisiana) that of the four

daughters of St. Vincent de Paul, Sisters Beatrice, Anne, Cyril, and Mary Thomas.

The book is fully illustrated by excellent photographs of the scenes described.

To those interested in charitable work, the book will present an explanation of the work done by the self-sacrificing men and women who have devoted their lives to it, and through that explanation an appeal for more aid, though such an appeal is evidently not the author's intention.

CORRESPONDENCE

Hydrophobia

To the Editor of the A. M.-S. BULLETIN :

In your journal of January 10, under the caption of "Newspaper Rabies," and copied from the *N. Y. Med. Jour.*, I see Dr. Irving C. Rosse, of Washington, gives some encouragement to the skeptics on hydrophobia, quotes research of medical journals, and cites extensive travels and has never seen a true case of the disease. This may all be true ; but when he does see a case, it will not take him five minutes to diagnose it. I have also traveled this country all over, without seeing a case ; perhaps because I was not hunting for that kind of trouble ; and in a practice of more than thirty years I have only seen *one* case—that was some twelve years ago and within four blocks of my office—a boy of 12 years. I do not remember having read an article on that subject for several years, but the symptoms were so pronounced that I could not mistake the disease. After my silent conclusion, I called the father aside and asked him if his boy had been bitten by a dog. He first said: "No. Why, you don't think he has got hydrophobia, do you ? and is going to die ?" "Yes ; that is my opinion." We had two consulting physicians inside of an hour, both making same diagnosis and prognosis. The boy expired in about fourteen hours. The father and mother said to me, before leaving the house, that the boy was bitten about nine months before, on the thumb of the right hand.

I may never see another case, and surely do not want one to treat, but I shall never doubt the distinctive pathological symptoms and features of hydrophobia. It is positively unlike any other disease I have ever met in all these years of general practice. And I absolutely wonder how any medical man can be any more skeptical on this disease than a great many others that he has never seen ; and yet we have them in my own medical society—learned as they are, they are still a wonder.

I do not think the newspapers say too much on this subject for the safety of the people. They should do more to restrict the number and range of so many worthless and dangerous curs.

I refrain from taking up space in giving diagnostic symptoms of this distinctive disease, for every practitioner has, or should have, read them over and over again.

WM. H. ISZARD.

Camden, N. J.

Catheterizing the Ear

To the Editor of the A. M.-S. BULLETIN :

In the issue of the BULLETIN for Jan. 25, 1897, appears a letter from Dr. W. P. Rushin, of Albany, Ga., in which he states that he found it "impossible to introduce the catheter through the left nostril so as to inflate the tube and middle ear." His patient presented an obstruction of this nostril owing to an exostosis. She was suffering from "tubal and middle ear catarrh" and he could "only inflate the left middle ear partially with the Politzer bag." He then goes on to explain a method of catheterization which has been known to aurists for more than half a century. From this it seems Dr. Rushin was not acquainted with this procedure, and from what he says in his letter one is led to infer that he has just discovered a new method of passing the Eustachian catheter through one nostril to catheterize the opposite tube.

The proceeding is described in nearly all books on diseases of the ear. We cannot but quote from some of them :

In Dench's work on "Diseases of the Ear," p. 123, we find the following: "When one nasal passage is blocked so that the introduction of a catheter is impossible, it may be carried through the passage of the opposite side, as advised by Delean[1]."

Pomeroy, "Diseases of the Ear," says on p. 25: "Where one nostril will not allow a catheter to be introduced, the other may. Taking advantage of this circumstance, catheters of extra length of curve have been constructed so as to enter the tube through the opposite nostril."

Roosa, "Diseases of the Ear," p. 371, says: "The two nostrils often differ very much in size. In some very rare cases, not even the smallest catheter that can be made, can be passed through the nostril of one side. For such cases the catheter has usually been made longer, and introduced through the opposite nostril."

From this it can be seen that the method described by Dr. Rushin is not at all new, and as we have already said, it has been practiced since 1827, more than half a century.

VINCENT GOMEZ.

New York.

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[1] *Rev. Méd.*, 1827.

American Medico-Surgical Bulletin

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Editor: ROBERT G. ECCLES, M.D.

COLLABORATORS:

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EDITOR'S NOTES

The New York *Sun* of Jan. 21 says that in the tenement quarters of New York there are a large number of ignorant and unregistered practitioners. If this is correct, the County Medical Society has a good chance to distinguish itself again in repeating its good work of a few years ago.

Professor Crookshank's paper on "Actinomycosis," which we publish in this number, is one that ought to be of unusual interest to every medical man, as much because of what it implies as what it contains. Nothing has been written by any medical man for a long time that has so profound a bearing on future medical science. It emphasizes in a way that cannot be mistaken, the fact that symptoms are exceedingly imperfect guides to a determination of the nature of a disease. It shows that the combination of symptoms usually considered a disease is but the outgrowth of a set of relations, and not a reality. Without the use of the microscope, actinomycosis of the lung and tuberculosis of the lung are indistinguishable. What we have called scrofula, and even syphilis, is probably sometimes actinomycosis. It is quite likely that many of our readers have seen this disease more than once in one or more of its multitude of forms, yet did not recognize it in any of them. Medicine as a science is but beginning, and its promises for the future are magnificent.

The San Francisco Board of Health has begun a crusade against doctors that fail to register births. On Jan. 16 to 18 several physicians were made prisoners for their neglect, and released on bail. Usually, when one board becomes active, others follow in the wake. Are we going to have an epidemic of this kind throughout the country, or do doctors elsewhere always report?

The Committee of Revision of the British Pharmacopeia reported at a recent meeting of the General Medical Council that three-fourths of their work was done, and that it would be completed toward the end of this year. It is to be hoped that they will not restrict its usefulness by keeping out any of the well-known synthetic remedies, and that they will get into line with the other important pharmacopeias of the world by adopting the metric system.

Dr. Spivak, of Denver, Col., under the auspices of the State Medical Association, has undertaken to ascertain exactly what medical journals are subscribed for by the medical men of Denver. A card catalogue will be made representing all the journals, and showing who are the subscribers and where they can be seen by any person who wishes to consult them. This catalogue will be kept in the public library. The scheme is a good one and could be imitated with advantage in other cities.

Dr. Nicholas Senn, of Chicago, is reported as having said that the beard is an unendurable abomination for a doctor. He requires all his assistants in the hospital to be beardless. This seems to us to be a queer fad. What more harm can there be in the hair of the beard or mustache than in that of the head or the eyelashes? Why not order the head shaved clean, the clothes removed and the body treated to an antiseptic bath before every operation?

The BULLETIN is receiving compliments and congratulations on all hands. To publish them in full would occupy more space than belongs to this department. We cannot refrain from giving samples so that our readers may know that we have cause for feeling grateful. Dr. West, of the Brooklyn Board of Health, is one of many that has referred to our editorials of Jan. 10. He says: "Allow me to congratulate you on the excellent scientific flavor of your editorial on 'The Relativity of Disease'; it was an agreeable contrast to the ordinary medical leader." Dr. George M. Gould, of Philadelphia, one of the best-known medical authors in the world, is one among a very large number who have spoken in praise of our editorials of Jan. 25. He says: "I congratulate you most heartily upon the courage and perspicacity displayed in the editorial in your issue of Jan. 25. For ten years I have been pounding away at this question, and I sincerely hope that you may be more successful than I have been in rousing the profession to some consciousness of the disgrace." Regarding our abstracts, our esteemed Chicago contemporary, *The Medical Standard*, says: "Dr. Eccles deserves the greatest praise for his conduct of the journal, whose department of original abstracts in particular is flawless."

One of the most horrid cases of malpractice we have heard of in years occurred in Glenmore, N. Y., a few weeks ago. A medical man, too drunk to know what he was doing, in his delirious frenzy undertook to perform craniotomy on an unborn child, though everything, according to reports, was normal. He sent the father out into the yard to find a heavy wire. One was secured from the rim of an old rusty pail. This the doctor fixed to suit his fancy, and after sharpening the end, proceeded to operate with it. Drunken doctors should be locked up until they are sober, and if found frequently drunk, the law should forbid them practicing their profession.

The State Board of Health of Rhode Island has been compelled to register Dr. A. A. Walter, who holds diplomas from three European colleges, but none from an American college. According to the Boston *Herald*, they refused registration to Dr. Walter on the ground that European nations did not recognize American diplomas, and they did not see why we should recognize foreign ones. While such action contains some show of justice, yet it is not right according to the higher ethics. Such refusals give the enemies of medical progress in the neighboring State of Massachusetts material to fight with.

Not long ago someone advocated the desirability of medical men wearing some sort of distinguishing uniform, so that like soldiers they could be known at sight, and when in emergencies their services were required they could be pressed into duty. Now Dr. Stone, of the Indiana National Guard, has devised a simpler way of distinguishing doctors from other mortals. He would have them wear a gold button on the lapel of their coats, bearing a red cross and the mystic letters "M. S. O. H.," which, he says, stands for medicine, surgery, obstetrics and hygiene.

The Eastern District of Brooklyn has a hospital that was started on a capital of $20, and now finds itself in debt $200 for drugs, unable to pay its rent and less than $3 in its treasury. The presiding genius of the institution has been charged with neglect of duty, but he certainly has neglected no opportunity to advertise himself. This is but a sample of the way the wreckers are working in their wild determination to destroy the medical profession.

Massachusetts seems to contain a large number of people who would like to see the State thrown open to quacks and charlatans. A Mr. Douglass, of Boston, introduced a bill into the House a few days ago to abolish the Board of Registration in Medicine. It is entitled "An Act to restore medical freedom to the people of Massachusetts." Was it the irony of fate that added the three last letters to this astute statesman's name? In the names of liberty and freedom what folly and villainy this world has seen!

A number of suits to collect large bills against rich patients have lately been decided against the physicians bringing them, on the ground that a rich man should be charged no more than a poor one. This is rather remarkable, when it is a known fact that lawyers all do this. It might be well for medical men to hold that the larger or maximum amount is the true value of their services, but that they remit a certain amount to patients that are unable to pay full rates. Or it might be held that more care is exacted and greater risks involved with rich patients than with poor ones. To lose a rich patient is often to endanger a practitioner's future career.

The State medical associations of Minnesota have drafted three important bills. One provides for the establishment of a board for the preliminary examination of persons intending to take up the study of medicine; another for the appointment of a commission of medical experts to be employed in criminal and civil cases. In the first class of cases the physicians are to be paid by the State, in the second class by the contestants, as a part of the costs of the suit. The third measure calls for the abolition of the coroner system.

NEWS

Bellevue Hospital Medical College building was destroyed by fire on January 20.

The Las Vegas (N. M.) Insane Asylum has treated eighty-three patients in two years.

Seattle, Wash., is booming. There were ninety-eight more births there in 1896 than in 1895.

Five years ago the diphtheria mortality in Boston was from 30 to 32 per cent. For 1896 the mortality was only 11.14 per cent.

Denver newspapers have been interviewing the doctors there about an alleged discovery, in Paris, of the microbe of insanity.

New York physicians can now hire portable *x*-ray apparatus at reasonable rates and have skilled photographers prepare the pictures.

Traveling medical quacks in the West are cheating country editors on a wholesale scale out of their pay for their puffs and printing.

Dr. Mary Walker, of "bloomer" fame, and the only woman surgeon in the Army, has come out with a consumption cure of her own.

Many Minnesota physicians are protesting against the action of the Governor in removing Dr. Hewett from the State Board of Health.

An Illinois doctor has built a private telephone line connecting him with several outlying small towns and villages in which his patients live.

An "epidemic" of torticollis is reported from New Castle, Pa. New York and Brooklyn have had an unusual number of such cases lately.

Sir Joseph Lister was raised to the peerage on New Year's Day. He is the first physician to receive that honor. He has chosen the name of Lord Lister.

The women's health protective associations are complaining of the ash and garbage nuisances, but they make no practical effort to enforce the sanitary laws.

The *Leader*, of Pittsburg, Pa., has exposed the condition of many bakeshops in that city, which is frightful. The filth, dirt, and stench are a menace to the health of both the workmen employed there and the general public.

Dr. A. C. Abbott, Professor of Hygiene at the University of Pennsylvania, has been appointed Chief Bacteriologist of the Bureau of Health of Philadelphia.

Michigan physicians are likely to learn the lesson of the boy and the nuts by their inability to agree on proper legislation to exclude the extreme type of quacks.

The Pennsylvania Legislature will be petitioned by leading Philadelphia physicians to make an appropriation for the establishment of a State colony for epileptics.

An epidemic of scarlet fever was caused in East Orange, N. J., by the milk from a dealer whose son was allowed to work in the dairy while convalescent from the fever.

Reports show that the cocaine habit is spreading to an alarming extent, because of the use of a proprietary catarrhal powder containing about 4 per cent. of the hydrochlorate.

M. Adolphe Deucher, the newly elected President of the Swiss Republic, is a member of the medical profession. He practiced medicine until 1879, when he gave it up for politics.

Dr. C. M. Dodge, of Manchester, N. H., has been indicted for murder in the second degree for the death of a woman in his office, while she was undergoing an operation for abortion.

The pension surgeon examinations by the Civil Service Commission will soon begin. Some city doctors are said to add over $1000 per year to their incomes by becoming pension surgeons.

A resolution that all physicians should sign an agreement not to treat lodge patients at cut rates was voted upon and defeated at a recent meeting of the San Francisco Medical Society.

York, Pa., has erected a crematory for the disposal of its garbage, and the collection of garbage will be under the direct supervision of the Sanitary Committee and the Highway Commissioners.

Pure water is the cry of most large cities. Baltimore wants a million dollars for a filtering plant ; Philadelphia wants three millions for the same purpose ; Chicago schools will use artesian water till boilers or filters are furnished. Cumberland, Md., is experimenting with a crushed stone filter and believes it a success.

A homeopath has been appointed President of the Board of Health at Seattle, Wash. A fight is expected, and one member of the council says he will resign if the appointment is confirmed.

The Massachusetts State Board of Registration asks that the fee from applicants be increased to $20, as the present fees are insufficient to meet the expenses of enforcing the law against those who practice illegally.

E. B. Treat, the New York publisher, has in press, to be issued early in 1897, the "International Medical Annual." This will be the fifteenth year of the issue of that well-known reference work. The 1897 volume will contain about 700 pages.

President Lutz, of the Missouri State Board of Health, says that the recent decision of the Supreme Court will make Missouri the dumping-ground for quacks, charlatans, and imposters of every species, that make a show of practicing medicine.

The doctors and the lawyers of the Society of Medical Jurisprudence cannot agree on the new lunacy law of the State of New York. The lawyers defend it as properly protective ; the doctors oppose it as almost impossible to commit a lunatic under it.

The New York Board of Health has decided to make it obligatory upon physicians to report cases of tuberculosis. The information is for statistical purposes only, and the patients will not be isolated or molested in any way, as was erroneously reported at first.

The Ohio Medical College, by uniting with the University of Cincinnati, is in trouble. It is expected that the law will compel them to graduate colored men, although their policy has always been against this, because of the large number of Southern students they have.

Dr. Clayton, of Evanston, Ill., sued the estate of a patient for $2000 for eight days' constant attendance. Judge Kohlsaat ruled $100 a day was a fair remuneration. In a similar case, where Dr. N. C. Wood, of Philadelphia, sued for $3585 for twenty-four days' constant attendance, Judge Ferguson ruled that $1000 would be a liberal compensation.

The City Health Commissioner of Minneapolis, Minn., reports highly favorable results from the use of antitoxin in diphtheria. In 1468 cases of true diphtheria thus treated, the mortality was only 6.41 per cent.; while in those treated without antitoxin, the mortality was 40 to 60 per cent.

Danger lurks in street car handstraps, according to Chicago physicians, who blame them for the dissemination of skin diseases. The use of handkerchiefs while holding on to the strap is recommended by some, while others claim that it would thus become a worse carrier of infection than the strap.

A new fad in the line of " cures " is reported from Munich. Dr. Paul Riverra says he is going to build a music-cure hospital, twenty stories high—to get the "cloud vibration"—where all diseases in which pain is a prominent symptom will be treated by music. For nervousness, Wagner's music will be employed.

Dr. Biggs and Dr. Prudden make the assertion that consumption is wholly preventable, and with proper regulations might be completely exterminated. They recommend a separate hospital for tubercular patients, that the disease be officially declared communicable, and that tuberculous cases be put under strict surveillance.

Two physicians of Dixon, Ill., induced a young woman to allow them to perform an operation for appendicitis. A year later, Dr. Senn performed an operation on the woman, and he found that the previous operation was a fraud, as the physicians only cut through the outer skin and then sewed up the wound. The physicians were arrested.

The *Fort Wayne Medical Magazine* and the *Journal of the Medical Sciences* have consolidated into what shall hereafter be known as the *Fort Wayne Medical Journal-Magazine.* The editorial staffs of both journals have likewise united, and the editor of the *Fort Wayne Medical Magazine* becomes Editor-in-Chief. We wish the *Journal-Magazine* success.

The Society of the Lying-in Hospital of the City of New York has received a gift of $1,000,000 for the erection of a new building. The only conditions attached are : (1) The assurance that it will have money enough for the running expenses of the hospital after its completion, and (2) that the architectural and sanitary arrangements shall be satisfactory to Dr. F. H. Markoe.

A patient of the New York Pasteur Institute lately died in Baltimore with symptoms that were said to be those of hydrophobia. Because Dr. Gibier, when telegraphed for to come and see the patient, sent word back that he could do nothing further, the papers of that city came out with sensational articles and big headlines containing the words "Dr. Gibier Criticised."

A half-dozen Japanese doctors—the first graduates of the medical colleges of Japan—are building up a practice in San Francisco. These professional gentlemen have organized a preparatory school of medicine and surgery, in that city, for young Japanese, which already has a membership of sixteen. Dr. K. Kurozawa, pioneer Japanese physician in this country, is at the head of the new school.

The San Francisco, Cal., health officers declare that the County Hospital is in a most dangerous condition, the officers, inmates and residents in its vicinity being exposed to the disease germs that are being scattered upon the open ground by the broken and leaking sewer pipes. They fear an epidemic of fever among the inmates and emphatically state that they will close the institution unless the supervisors act promptly. The supervisors claim to be powerless in the matter, being without any fund for the purpose, and without power to create a fund at this time.

Wives of medical men will all probably be interested in learning that a National Congress of Mothers will be held at the Arlington Hotel, Washington, D. C., Feb. 17 to 19, 1897. All mothers who can are not only invited to attend this meeting, but to organize Mothers' Clubs in the towns and cities where they live. The object of this congress and these clubs is to aid in the mental, moral, and physical training of children and to interchange views about home problems. Such work is particularly well adapted to doctors' wives and will enable them, by coming in contact with their husband's patients, to lighten their burdens and make more successful their work in many a household. Mary Louisa Butler, of 1429 Twentieth street, Washington, D. C., is the Corresponding Secretary.

OBITUARY

Dr. A. J. Fuller, one of Bath's (Me.) best-known physicians, and the First Vice-President of the American Medical Association, aged 74 years. Among the offices he had held was that of President of the Bath Board of Trade for eighteen years.

Dr. B. F. Ketchum, of Brattleboro, Vt., was born in Troy, N. Y., sixty years ago, and educated in the academy at Cambridge, N. Y., and in the College of the City of New York. He was a surgeon in the Tenth Vermont Regiment, and to him was assigned the duty of organizing the large military hospital in Brattleboro. After the war he practiced in Brattleboro. In 1870, he went to Tennessee, where he remained three or four years. Two years ago he was elected Department Surgeon of the Vermont Division of the Grand Army.

Dr. Alonzo Churchill, one of the oldest physicians in Utica, N. Y., died in his home on December 28. His mother was a descendant of Ethan Allen. Dr. Churchill was graduated from the College of Physicians and Surgeons of Western New York, at Fairfield, Herkimer County. He served with distinction as a surgeon in the army during the civil war. Dr. Churchill was a member of the New York State Medical Association, the Otsego County Medical Society, and in 1869 was President of the Oneida County Medical Society.

Professor Emil Du Bois-Reymond, the great thinker and physiologist, in Berlin on December 26 last. He was born in Berlin in 1818, of Swiss-French parents; was graduated from the University of Berlin, and in 1858 he was appointed Professor of Physiology at that university, which position he held until his death. In the early forties and later, he did much to dispel the mysticism then prevailing in the natural sciences; he denied the existence of any "vital" force, and tried to explain all biological phenomena by physical and chemical laws. His contributions on the subject of animal electricity created a new epoch in the science of physiology.

Dr. R. M. Denig, in Columbus, O., on January 17, at the age of 84. Dr. Denig came to Columbus in 1849, and was at one time Professor of Medical Jurisprudence in the Starling Medical College. Later, he was appointed Lecturer on Diseases of Children in the Columbus Medical College, which position he held until that institution united with the Starling College. He retired from active practice about five years ago.

NATIONAL MEDICAL SOCIETIES

Annual Meetings

NAME OF SOCIETY	PLACE	TIME	SECRETARY	RESIDENCE
American Academy of Medicine	Philadelphia, Pa	May 29–31	Dr. C. McIntyre	Easton, Pa.
American Academy of Railway Surgeons	Chicago, Ill	Sept	Dr. D. C. Bryant	Omaha, Neb.
American Assoc. Genito-Urinary Surgery	Washington, D. C	May 4–6	Dr. W. K. Otis	New York City.
American Assoc. Obstetrics and Gyn	Niagara Falls, N. Y	Aug. 17–20	Dr. W. W. Potter	Buffalo, N. Y.
American Climatological Association	Washington, D. C	May 4–6	Dr. G. Hinsdale	Philadelphia, Pa.
American Dermatological Association	Washington, D. C	May 4–6	Dr. J. T. Bowen	Boston, Mass.
American Electro-Therapeutical Assoc	Harrisburgh, Pa	Sept. 21–23	Dr. M. Einhorn	New York City.
American Gynecological Society	Washington, D. C.	May 25	Dr. J. Riddle Goffe	New York City.
American Laryngological Association	Washington, D. C	May 3–7	Dr. H. L. Swain	New Haven, Conn.
American Laryngological, etc., Society	Washington, D. C.	Apr. 30, May 1	Dr. R. C. Myles	New York City.
American Medical Association	Philadelphia, Pa	June 1–4	Dr. W. B. Atkinson	Philadelphia, Pa.
American Neurological Association	Washington, D. C	May 4–6	Dr. G. M. Hammond	New York City.
American Ophthalmic Society	Washington, D. C.	May 4–6	Dr. S. B. St. John	Hartford, Conn.
American Orthopedic Association	Washington, D. C	May 18–21	Dr. J. Ridlon	Chicago, Ill.
American Otological Society	Washington, D. C	May 4	Dr. J. J. B. Vermyne	NewBedford, Mass.
American Pediatric Society	Washington, D. C.	May 4–6	Dr. F. A. Packard	Philadelphia, Pa.
American Public Health Association	Philadelphia, Pa	Sept	Dr. I. A. Watson	Concord, N. H.
Army and Navy Medical Association	East St. Louis, Ill	May 18	Dr. E. P. Bartlett	Springfield, Ill.
Association of American Physicians	Washington, D. C	May 4–6	Dr. H. Hun	Albany, N. Y.
Association of Military Surgeons of U. S	Columbus, O	May 25–27	Dr. H. Burgin	Philadelphia, Pa.
Canadian Medical Association	Montreal	Aug	Dr. F. N. G. Starr	Toronto.
Mississippi Valley Medical Association	St. Paul, Minn	Oct. 19–22	Dr. H. W. Loeb	St. Louis, Mo.
Missouri Valley, Medical Society of	Lincoln, Neb	March 18	Dr. D. Macrae, Jr	Council Bluffs, Ia.
National Association of Railway Surgeons	Chicago, Ill	May 4–6	Dr. C. D. Wescott	Chicago, Ill.
New England Psychological Society	Waverly, Mass	March	Dr. E. V. Scribner	Worcester, Mass.
Southern Surgical and Gynec. Assoc	Nashville, Tenn	Nov. 10	Dr. W. E. B. Davis	Birmingham, Ala.
Tri-State Medical Society	St. Louis, Mo	April 6–8	Dr. G. W. Cale	St. Louis, Mo.
Western Ophthalmological, etc., Assoc'n	St. Louis, Mo	April 8-9	Dr. H. Foster	Kansas City, Mo.
Western Surgical and Gynec. Assoc'n	Denver, Col	Dec. 28–29	Dr. H. E. Pearse	Kansas City, Mo.

STATE MEDICAL SOCIETIES

Annual Meetings

STATE	PLACE	TIME	SECRETARY	RESIDENCE
Alabama	Selma	April 20–23	Dr. J. R. Jordan	Montgomery.
Arkansas	Little Rock	May 12	Dr. F. Visonhaler	Little Rock.
California	San Francisco	April 20–22	Dr. W. W. Kerr	San Francisco.
Colorado	Denver	June 15	Dr. H. B. Whitney	Denver.
Connecticut	Hartford	May 26, 27	Dr. N. E. Wordin	Bridgeport.
Delaware	Rehoboth	June 8	Dr. P. W. Tomlinson	Wilmington.
Dist. of Columbia	Washington	April 6	Dr. J. R. Wellington	Washington.
Florida	Palatka	April 21	Dr. J. D. Fernandez	Jacksonville.
Georgia	Macon	April 21	Dr. R. H. Taylor	Griffin.
Idaho	Boise	Sept. 9, 10	Dr. W. D. Springer	Boise.
Illinois	East St. Louis	May 18	Dr. J. B. Hamilton	Chicago.
Indiana	Terre Haute	May	Dr. F. C. Heath	Indianapolis.
Indian Territory	South McAlester	June 1, 2	Dr. G. J. Rucker	Claremore.
Iowa	Marshalltown	May 19–21	Dr. J. W. Cokenower	Des Moines.
Kentucky	Owensboro	June	Dr. S. Bailey	Stanford.
Louisiana	New Orleans	May 4	Dr. P. B. McCutchon	New Orleans.
Maine	Portland	June 2–4	Dr. C. D. Smith	Portland.
Maryland	Baltimore	April 20–23	Dr. W. G. Townsend	Baltimore.
Massachusetts	Boston	June 8, 9	Dr. F. W. Goss	Roxbury.
Michigan	Grand Rapids	May	Dr. C. H. Johnston	Grand Rapids.
Minnesota	Mankato	June 16–18	Dr. I. Donnelly	St. Paul.
Mississippi	Jackson	April 21	Dr. J. R. Tackett	Meridian.
Missouri	St. Louis	May	Dr. J. N. Jackson	Kansas City.
Montana	Helena	April 8	Dr. W. C. Riddell	Helena.
Nebraska	Lincoln	May 18–20	Dr. G. H. Simmons	Lincoln.
New Hampshire	Concord	May 24, 25	Dr. G. P. Conn	Concord.
New Jersey	Cape May	June 22	Dr. W. Pierson	Orange.
New York (Assoc.)	New York City	Oct. 12–14	Dr. E. D. Ferguson	Troy.
New Mexico	Albuquerque	May 12	Dr. H. J. Abernethy	Socorro.
North Carolina	Elizabeth	June 8	Dr. R. D. Jewett	Wilmington.
Ohio	Cleveland	May 19–21	Dr. T. Hubbard	Toledo.
Ontario	Toronto	June 2, 3	Dr. J. N. E. Brown	Toronto.
Oregon	Portland	June 8–9	Dr. W. F. Amos	Portland.
Pennsylvania	Pittsburg	May 18, 19, 20	Dr. W. B. Atkinson	Philadelphia.
Rhode Island	Providence	June 3	Dr. F. L. Day	Providence.
South Carolina	Union	April 22	Dr. W. P. Porcher	Charleston.
South Dakota	Mitchell	June 9	Dr. W. J. Maytum	Alexandria.
Tennessee	Nashville	May 11	Dr. C. R. Atchinson	Nashville.
Texas	Paris	April 27	Dr. H. A. West	Galveston.
Utah	Salt Lake	Oct. 5, 6	Dr. J. N. Harrison	Salt Lake.
Vermont	St. Albans	Oct. 14, 15	Dr. D. C. Hawley	Burlington.
Virginia	Hot Springs	Aug. 31, Sept. 1, 2	Dr. J. F. Winn	Richmond.
Washington	Spokane	May 11, 12	Dr. J. M. Semple	Medical Lake.
West Virginia	Charleston	June	Dr. G. A. Aschman	Wheeling.
Wisconsin	Racine	May 5	Dr. C. S. Sheldon	Madison.

PUBLISHERS' DEPARTMENT

ANTITOXIN DOSAGE

Some physicians experience difficulty in regard to the proper dosage of antitoxin. This is because the antitoxic strength, the size of the dispensing vial, and the prescribed doses differ considerably in different brands. However when the principle underlying the mode of dispensing an antitoxin is recognized, the matter of dosage becomes easy.

To illustrate: Mulford's antitoxin is placed upon the market in three strengths, or degrees of concentration. These strengths are named respectively, "Standard," "Potent" and "Extra Potent." Each of these is dispensed in three sizes of vials which are numbered 1, 2, and 3. Vial No. 1 contains 500 antitoxin units, the ordinary minimizing dose; Vial No. 2 contains 1000 units and is indicated in an ordinary case of diphtheria; Vial No 3 contains 2000 units and should be used in an extraordinary case. For a case of ordinary severity, or any case treated early, Potent No. 2, or Extra Potent No. 2, are indicated. In all grave cases, and all cases treated late, use No. 3 Potent, or Extra Potent. Each vial is made to contain but one dose.

SALICYLATE OF STRONTIUM

Pure salicylate of strontium, made by Paraf-Javal process, occurs in white crystalline needles, slightly soluble in water and alcohol.

According to *Bulletin de Therapeutique*, it is this salt only which should be administered internally. In doses of 5 grn., its action as an intestinal antiseptic is most energetic. Doses of from 10 to 15 grn. in gouty and rheumatic subjects give the same results as other salicylates; and as the strontium salt has no untoward effect on the stomach, it is especially indicated where digestive troubles are present.

TREATMENT OF INFLUENZA

To relieve the pains of acute influenza with some preparation of opium is only to increase the cerebral congestion and aggravate the extreme prostration. This is certainly to be avoided. Clinical reports verify the value of antikamnia in controlling the neuralgic and muscular pains, as well as the fever. This remedy may be obtained pure, and also in combination with other drugs in tablet form. The conditions in which antikamnia and quinine are indicated suggest themselves and require no elaboration; antikamnia and codeine are serviceable in the treatment of the accompanying neurosis of the larynx, irritable cough, and bronchial affections. Relapses appear to be very common, and when they occur, the manifestations are of a more severe nature than in the initial attack. Here the complications of a rheumatic type are commonly met and "antikamnia and salol" will be found beneficial. To secure celerity of effect, it is well to crush the tablets before taking.

THE SAVANNAH LINE

This line has a number of staunch and commodious iron steamships plying between Boston, New York, Philadelphia, and Savannah. The hulls and decks are of iron and steel. The compartments are water-tight. The saloons are beautifully furnished and upholstered. Each ship is lighted throughout by electricity. The vessels are manned by carefully selected officers and crews.

If the reader will write to the "Savannah Line" at Boston, New York, or Philadelphia, he will receive a handsome, illustrated book and a copy of *Savannah Line News*.

MERZ CAPSULES

A physician of Powellton, Ill., writes to the Merz Capsule Co., of Detroit, as follows:

> "Gentlemen—The additional samples which you sent, cured the case of gonorrhea, which had resisted the treatment of another physician for two months. The discharge, which was very profuse, was checked the third day, and has never returned up to the present. The patient was delighted with the treatment, and I will continue to use this very useful combination, namely, The Merz Compound Sandalwood. Very truly yours,
> "—— ——."

UNGUENTINE

A Greenwich, N. Y., physician writes as follows to the Norwich Pharmacal Co.:

> "Gentlemen—I have been using Unguentine for some time, and I must say I am more than pleased with its effects. I have used it as a dressing after amputation of fingers, in lacerated and contused wounds, and in two or three cases of burns, and in all cases with the happiest results. I have a dressing-bag, so-called, in which I intend to have everything for dressing any kind of wound or injury, and now carry only the Unguentine, being satisfied that with that ointment I have something that is superior as a dressing for all kinds of wounds and injuries, to anything I have ever used."

A free sample of Unguentine and literature will be sent to any reader who will mention the AMERICAN MEDICO-SURGICAL BULLETIN. Address Norwich Pharmacal Co., Norwich, N. Y.

American
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EDITORIAL

A CONTAGIOUS SANITARY MEASURE

PROGRESS occasionally appears to make sudden leaps. A concentrated solution of a crystallizable substance sometimes rapidly forms a mass of crystals by merely dropping a small fragment of that kind of crystal into the liquor. In such a case every condition save the final one had to be prepared in advance. Reforms, as a rule, are slow and tedious in their growth. Occasionally one leaps into vigorous life at a single bound, but as in the case of the crystals, the preparation is all made in advance, and one critical act precipitates the change. Sanitary reform is generally met, from its very inception, with brutal resistance. Those most likely to gain benefit from the reform are most often its worst foes, the inertia of ingrained habits that have to be overcome forming the obstructing factor. Occasionally even here we have cases of an apparent leap. The rapid acceptance of Lister's antiseptic methods in surgery was among the first of these rare surprises. But even this did not escape opposition, and occasionally a man can be found who fights it. During the past month we have experienced another of these rare occurrences.

On January 20 the New York Board of Health, by an amendment to its sanitary code, declared tuberculosis "an infectious and communicable disease, dangerous to the public health," ordered all physicians in the city to report every case coming under their care, and prepared to enforce the regulations previously enunciated for the prevention of the spread of this disease. No sooner had the news of this action been published than city after city proceeded to imitate. Health officers in other places at once began to claim priority in enunciating the desirability of such a move. It spread with as much rapidity as a rapidly crystallizing mass under the most favorable conditions. The whole world of sanitarians seemed to be ready for the reform and rejoiced at its advent. The effect on boards of health seemed to be contagious, and nowhere among them was a single dissenting voice heard. The leading papers of the country were almost a unit in commending the move.

As we watched the reports coming in from all parts of the country, we wondered how long it would last, and thought surely a reaction must set in soon. We knew the whole world was not prepared for the change, but we remembered that the bubonic plague scare was upon us, and that even crass ignorance would cower before its menace. As every man's worst enemies are those made in his own household, so we expected to see the opposition rise among medical men, and we were not disappointed. For over a decade the necessity for just such a move as this has been forcing itself upon the attention of every reasonable and reasoning physician in the world.

The logic of facts was simply irresistible in this direction. The consensus of the competent has long been completely and unequivocally obtained in its favor. They now look on and applaud the measure as one likely to prove a blessed benefaction, not to New York alone, but to all the world. And who are they who oppose it? A few intelligent men who deem the move inexpedient, aided and abetted by those incompetent to judge. We have not heard of a single soul against it among those who have investigated the facts at first hand, and not from somebody else's say so. The only men who, in the court of science, have any right to be heard at all, are a unit in its favor. They have been advocating just such a move for a long time, and no one dared to oppose them until they began to act. Now we suppose the opposition will, by misrepresentation and appeals to prejudice, endeavor to cripple and harass sanitarians in their efforts to check the most dreadful scourge we have to contend with. If they succeed, and but little progress is made, then will they cry out: "I told you so." What possible harm can come to any community by having the boards of health know where all cases of tuberculosis are to be found? What harm can come from their giving such patients and their friends proper directions concerning the care of the sick and the well? What harm can it do medical men to report all such cases? Who will be injured if very poor or friendless consumptives, too sick to care for themselves, and too poor to pay for proper care, are carried to a hospital set apart for the treating of just such cases? These questions cover about all that is at issue. Nothing more drastic or appalling has been attempted, and all the talk about cruelty, isolation, and branding consumptives as pests, is sheer nonsense.

OUR DUTY TO CONSUMPTIVES

IN reply to the second question, above propounded, the conservative old-fashioned medical men will be sure to say that it is unnecessary and cruel to alarm such patients or their friends by letting them know the nature of their malady. In this answer exists the source of greatest danger to progressive sanitation. He who is abreast of the times will never give it. If modern discoveries can be relied upon, and if Nature tells the truth, the reverse is true. Why should we fear to tell such patients what ails them? Because until lately we did not know that consumption was curable. Because we did not know that refusing to tell them what ailed them was the very thing that doomed them to a lingering and certain death. Because we thought it cruel to tell them that Nature had sentenced them to an early execution, a condition we believed to be true, but which, in fact, was not true. Now that all this is changed, and now that we know that the life of the patient and the lives of his friends hang on that warning we have heretofore refused to give, where is our excuse for such reticence? The measures necessary to prolong his life and to save the lives of others will not be adopted by him unless he is told what ails him, and told it at the earliest possible stage of the disease. The cumulative evidence of pathology shows that rarely, if ever, is the first lesion of the lungs the fatal one. Again and again they resist and successfully vanquish the attacking bacilli. It is the second, third, fourth, or perhaps the fortieth attack that forms a permanent and incurable lesion. Whence come the bacilli that produce these successive attacks? From their own rooms, from their own clothes, from their own beds, from their own sofas, from their own workshops, or perhaps, though much less likely, from consumptive relatives or friends, as ignorant of what should be done as themselves. Auto-infection is the nemesis of the consumptive, a nemesis fastened upon him by his reticent physician, who fears to tell him what ails him when first attacked, and when the chances are all in favor of a spontaneous recovery under sanitary conditions. Without such knowledge he fearlessly exposes himself to overstrain, drafts, and foolish exposure in a multitude of ways that lessen his vital resistance. He heeds no course but his own. Had he the menace of death before his eyes, he would act more wisely. As his own bacilli multiply around him, he takes in dose after dose and hastens the fatal end. Nor does he stop at lung infection. He swallows the germs that lodge in his mouth and set up marasmus, to hurl him quickly into eternity amid the most appalling misery. To think that all this is preventable by a word from the physician-in-charge, with proper sanitary directions, is horrible. Then, to think that he is not only pursuing a course that is suicidal, but one that is homicidal as well, makes matters still worse. His loving wife, his beautiful children, his fond parents, his affectionate brothers and sisters, his dear friends, are all nearly as much endangered by him as if he was a furious maniac with a knife or pistol. Those that love him most are most in danger, by the closeness and continuance of their contact. Why should he not be told? Is it not cruel to withhold knowledge that could stop all this? Is his life not worth enough to risk the pain of the shock of telling him? What would be thought of a doctor who should withhold quinine in intermittent fever, bcause the bitter taste was obnoxious to the patient? The information given to a consumptive, that he has consumption, is the most essential part of his treatment. It is just as essential to him as quinine or cinchona is to an ague case. What is the doctor called for, anyway, if he is not permitted to use the only really powerful remedy he can command? Until patient and friends get this essential prescription, they are not going to follow the directions that must accompany it. As soon as they have received this, then, and not till then, are they ready and willing to set their house in order for his recovery. Floors, walls, and ceilings must be washed and made aseptic. Furniture, beds, clothing, and ornaments of every kind must be purified. Carpets, rugs, and mats must be exposed to sun and wind in open fields or lots, and cleansed by the non-susceptible. No dust must be raised in indoor cleaning. The patient, during all this, must not be exposed to conditions that are injurious. He must neither kiss nor be kissed, and while comfortably clothed, must have pure, fresh air and bright sunlight in his room as often and as long as possible. There must be no spitting or coughing, except into clean rags, that should always be within reach. These must be immediately consigned to flames, or, in the absence of a fire, to copious solutions of formaldehyd or javelle water. Carbolic acid, sublimate, and combinations of chlorides in solution, while inhibitory, are not destructive of the bacilli under ordinary treatment. On no account permit such rags to accumulate after being used. Unless patient and friends are particularly warned in this particular, they will be, and then all effort of every other kind is lost. Have those that handle such rags, as well as the patient, wash their hands scrupulously clean after each handling of a rag that has been used. All this will at first be very troublesome, and often the details will be forgotten, but once the habit is formed, it will become a second nature, and they will be satisfied with doing it. In an environment thus cared for, it is not likely that there will arise any new cases of consumption. All our present knowledge leads us to confidently expect that a large proportion of the sufferers will get well, while those that are beyond recovery will suffer less, enjoy life more, and sink less swiftly. Consumptives usually have a buoyant spirit and hope for the best. This can be maintained and intensified by pursuing the usual line of therapeutic treatment at present followed. While there is but little definite knowledge yet concerning the Maragliano serum, enough is known to add it to the list of promising things for those rich enough to try it. Our duty to our consumptive patients does not end with what we do for them in their homes. We must correct a wholly erroneous idea that has lately gained currency among the public, and that does them a grievous wrong. The overanxious and too enthusiastic sanitarian is to blame for this. By comparing consumption with plague, smallpox, and other pests, in its death-dealing power, there has been left on the minds of the masses an idea that consumptives are pests to be avoided as dangerous. They think that the mere presence of a consumptive is a menace to them. This feeling is only in its incipiency, but it is growing, and it is the medical man's duty to check it, for the sake of his patient and his own sake. The more this idea grows, the more patient and friends will oppose the physician's diagnosis in such cases. Such an idea is both false and cruel. No one need fear the presence of a scrupulously clean consumptive. It is the dirty sputa of dirty consumptives, and not the bodily presence, that contaminate and endanger. There is absolutely nothing pestiferous when they are cleanly. The public are prone to assume that an emanation or exhalation from their bodies is the source of danger. Let every medical man teach the public the facts, and let them be taught in the public schools as a necessary part of public education.

RECIPROCAL RIGHTS OF CONSUMPTIVES AND PUBLIC

SINCE the discovery of the tubercle bacilli, and the experiments that demonstrated their part in the production of tuberculosis, no bacteriologist has attempted to contest the facts. Competent investigators everywhere are a unit in the matter. With such incontestible facts before us, we are forced to conclude that to check the dissemination of the bacilli is to check the disease. Can this be done? The same competent investigators tell us that it can and point out the way to do it. Tuberculosis must therefore be classed as a preventable disease. Already statistics have shown us that within a few years the partial, half-hearted, spasmodic attempts made in the right direction by the City of New York have lowered its death-rate about 30 per cent. When a railway train runs from the track and kills passengers, when a building falls and takes human life, when a wholly preventable accident of any kind occurs, there is usually an effort made to fix the responsibility, and if fixed with any degree of certainty, damages or penalties are exacted. Since consumption is acquired by accident, and since every such accident is preventable, those who are responsible for the occurrence of such accidents are morally guilty of a wrong, and should suffer therefor. Is the nation, is the State, is the municipality doing its duty in the matter? Is the public guilty or not guilty of criminal neglect and carelessness in this matter? Has not every consumptive a fighting case against the community for leaving matters in so careless a shape that he caught the disease? He cannot, of course, fix the responsibility, as it is shared by so many, and in ways that are difficult or impossible to trace, but we can all, with a good deal of confidence, assert that the community, as a whole, is guilty. When a legislative body is asked for $500,000 as the minimum of the requirements of a State Board of Health in fighting disease, and coolly turns around and appropriates $15000, who is to blame? When the public indignantly refuse to be restrained in the glorious liberty of spitting when and where they please, who is to blame? When railway companies crowd together multitudes in filthy, cold, or else unventilated cars, who is to blame? The trouble is, that there is yet a vast amount of selfishness in this world, and most of the people refuse to take upon themselves a slight amount of extra effort, even to save the lives of their fellow-beings, or their own, when the possibility of danger to themselves seems remote. But few are intelligent enough, or civilized enough, to know or feel that remote effects are as relentless and unsparing as the near. As a whole, we are but a little distance in advance of the half-trained savage, who, when hungry, took the ox from the plow he was using, and killed it to get a meal. He foresaw none of the remote consequences of his act. He only knew he was hungry, and that here was a chance for something to eat. Our people fear cholera and the plague, because their consequences come swiftly. They do not fear the greater danger in tuberculosis, because, like the savage, they cannot mentally compass the facts that would show them their own danger. Familiarity, too, has made them think that consumption is a necessary appendage to, or integral part of, modern life. It is well that we are occasionally menaced by some fearful epidemic from abroad. But for this we would make little or no sanitary progress. All recent gain can be credited to cholera and the plague. When the latter subsides, it is possible that no more gains will be made in this direction, and we may even drop back again to the same listless level which we occupied before being threatened. While the scare lasts, physicians should place no obstacle in the way of any board of health that seeks to improve the present conditions. They certainly should not be hindered in their attempt to locate consumptives, and in directing them how to follow sanitary rules. The same public selfishness that helps to multiply the number of consumptives, also actuates many of these victims in their conduct toward the public. They feel that it is too much trouble for them to be so rigidly particular with themselves, merely to save others. The same spirit is manifested in cases of scarlet fever and measles. Others did not look out for them and their children; therefore, they can see no reason why they should shoulder annoyance and trouble to save the public. Such a spirit is a contemptible and wicked one, but it is all too common. It has its check in tuberculosis, in that, if the patient refuses to heroically act for his fellows, he can be shown the necessity of acting to save himself. If he is too stupid to grasp the facts in this direction, then let the board of health sit in judgment on his case and condemn him to a hospital, where he can be watched and compelled to be cleanly. For a consumptive, and those in whose care he happens to be, to refuse to obey implicitly every order necessary for public safety, is to be criminally negligent. No consumptive that neglects a single necessary safeguard is fit to be at large. Isolation is wholly unnecessary if the patient is scrupulously cleanly. Isolation should be absolutely certain for every patient that refuses to be such. The public should be taught to look upon the filthy consumptive as they would upon a thief or murderer, and expose him to the rigors of the law. Let those who wish, go voluntarily to consumptive hospitals. Let those who prefer home life, stay at home as long as they obey the law. A clean hospital is not as good for most patients as a clean home. It is altogether too dismal and too suggestive of sickness and death. It has a constant depressing effect. A dirty hospital is far worse than a dirty home. It concentrates the disease and increases its virulence in proportion to the number of cases it holds. If the loving hands of friends and relatives cannot be made to keep a consumptive's home aseptically clean and pure, indifferent strangers, for a weekly pittance in cash, are not going to keep the hospital so. Mountain hospitals and mountain sanitariums acquire most, if not all, of their virtue from the almost aseptic character of the surroundings. Carelessness in time makes them as bad or worse than the neglected consumptive's home. Colorado, Utah, California, and New Mexico, now prized as regions of an ideal character for consumptives to reside in, are themselves rapidly becoming centers of consumption. Even the natives are being attacked with the disease. The immunity given by the pure mountain air is being overcome by the concentration of sputal filth. Cleanliness everywhere is an essential part of godliness; but cleanliness with the consumptive and his friends is life, love, hope, happiness, comfort, and godliness, all combined.

COMPULSORY REGISTRATION

THAT there should be the slightest opposition by the medical press of New York to the action of the New York City Board of Health, in its late decree compelling physicians to report all cases of tuberculosis, was a surprise to us. We had foreseen the necessity of just such action, for years, and wondered at the slowness of its coming. Any longer delay on their part would have seemed to us criminal. The educated part of the laity deemed it a wise act. We are not personally acquainted with any member of the board. Our politics differs materially from theirs. There is absolutely nothing that would bias us in their favor. In fact, if we were at all prejudiced, it would be against them. When, therefore, we thus defend their course, it is solely because they are in the right, and those opposing them in the wrong. Elsewhere in this issue, we give excerpts from the editorials of three medical journals upon the matter. As usual, every side is represented, so that no one can say we are not fair. We admire the bold, outspoken, and evidently sincere attitude of Dr. Shrady, but at the same time feel certain that he has made a mistake in this. The act of the board is no more offensively dictatorial than is any other legislative act. For years they have requested such notification, and some have complied. They could have gone on forever requesting, with no better result. Why any doctor should freely submit to the order that compels them to register births, and at the same time object to the order that insists upon their registering cases of tuberculosis, is past our comprehension. Such an order no more places the board in the position of dictating to the profession than it has always been placed, and always must be placed, by the character of its duties. Laws and their penalties are only for the inherently lawless. Those who have heretofore respected the request of the board are no more under constraint now than they were before. Those who arrogantly defied a reasonable, humane request in the past are the ones who seek to be "offensively dictatorial." The men whose constraint in the past was their sense of duty will not now cease to be under that constraint. The new force will only be a means of controlling those who had no such sense of duty and were not likely to develop such.

AMONG THE EDITORS

THE HEALTH BOARD AND COMPULSORY REPORTS

The profession of this city will be surprised to learn that the Health Board has finally declared that all cases of pulmonary tuberculosis, public or private, shall be reported to its sanitary bureau, on the plausible ground that the disease in question is pronouncedly dangerous to public health. With every desire to interpret the motives of the board in the most liberal spirit, the conviction forces itself upon us that the compulsory step taken is a mistaken, untimely, irrational, and unwise one. The medical profession is not yet prepared to indorse the radical measures proposed.

The argument upon which the action is based is very much one-sided, and calculated, in the interest of a few of the workers on the board, to alarm the public unduly, to place a large number of patients under public jurisdiction, and to inflict unnecessarily extra burdens upon the medical attendant.

The real obnoxiousness of this amendment to the sanitary code is its offensively dictatorial and defiantly compulsory character. It places the board in the rather equivocal position of dictating to the profession, and of creating a suspicion of an extra bid for public applause by unduly magnifying the importance of its bacteriological department. It would be a cause for much regret if such an opinion should take deep root, as it would tend to offset the effects of very much good work already done in the laboratory. We can trust only to time to see how the order will be carried into effect.—*Med. Rec.*

DISCOURAGING PROGRESS IN MEDICINE

The *Record* has never been the whole-hearted supporter of the New York Health Board. No harsh expressions should have been applied to this effort; if it succeeds, as in all probability it will, Editor Shrady will regret them, and in any case such strictures hamper the work of a board whose advisers, Drs. Briggs and Prudden, have as yet made no mistakes and have the confidence of the profession and laity alike.

Medicine is to-day the rendezvous of all the sciences, connecting with State and city politics through matters of hygiene and public health, embracing even philosophy through its later physiological studies, and by its universal pity and charity for mortal suffering it is breaking down sectarianism and becoming the universal religion of humanity. To discourage in any way this effort—even this dream, if so it prove—of relieving mankind is more than editorial atrophy; it is moral obloquy and impiety.—*Indiana Med. Jour.*

THE COMPULSORY NOTIFICATION ACT OF THE NEW YORK BOARD OF HEALTH

Just at present the medical profession of New York City is in a condition of hyperesthesia regarding its rights and prerogatives. It is quite possible that this may account for the somewhat irritable opposition that has manifested itself to the recent announcement of the Board of Health regarding the compulsory notification and isolation of cases of pulmonary tuberculosis. In these circumstances the disinterested judicial opinion of the *Boston Med. and Surg. Jour.* may prove a gentle sedative to our overwrought indignation:

> "We cannot but think that these provisions are in the line of future progress in the application of medical and sanitary science. Laws are only useful in so far as they can be enforced, and enforced with less loss and injury than is entailed by their absence. The useful and possible enforcement of the regulations under discussion will depend very greatly upon the tact, discretion, and good judgment of those entrusted with carrying them out. The working and the results of these regulations in New York will be watched everywhere with much interest."—*Med. News.*

THE ADVERTISING BUREAU

Until within quite recent years, the publicity of the secular press was restricted to a small clique of brilliant operators, leading specialists, and eminent practitioners, in each of the great cities. It was popularly supposed, and, indeed, has been more than once publicly asserted by envious colleagues, that these brilliant, eminent and leading individuals enjoyed special " pulls " with publishers, editors, and reporters, and this seemed the more probable from the fact that judicious hospitality, fraternization, and even grease, so it was said, had failed to accomplish the same result in other cases. Latterly, it must be admitted, it was beginning to be believed that grease properly applied possessed greater power than it had been credited with; but this was probably a mistake, if not a slander.

Now, however, all has been changed. Whoever cares to, may enter through an open door into the honorable circle of newspaper notoriety. He may freely and without price obtain for his name " the prominence that it demands." He may have his wise and fee-alluring countenance spread broadcast throughout the land in the columns of the leading newspapers, not of one, but of all cities ; thus placing him upon a plane of full equality with Dermatologic Woodbury, Lydia Pinkham, and the celebrities that indorse Paine's Celery Compound. Without price, did we say? Well, professional honor isn't *much* of a price nowadays—Is it?—*Phil. Polyclin.*

THE DISCRETIONARY AUTHORITY OF SURGEONS

A good deal of discussion has lately arisen in some of the law journals over a case recently tried in England, in which action was brought against a London surgeon by a hospital nurse upon whom he had performed a double ovariotomy.

What is the duty of the surgeon in a case where the patient refuses to give him unlimited discretion in the matter of operating? At the trial of the case which forms the subject of this article, the defendant surgeon as well as Sir Spencer Wells, Lawson Tait, and other eminent men testified that they would refuse to perform an operation in which they were limited by any such restriction as the plaintiff claimed to have imposed.

From a professional standpoint it is undoubtedly desirable that the hands of the surgeon should not be tied in an operation, but that he should be left to do whatever in his judgment was for the best interests of the patient. Is it not, however, somewhat arbitrary to refuse to the patient any choice in a matter involving, perhaps, the sacrifice of a limb, or, as in this case, the loss of the power of procreation? May not a man of ordinary intelligence choose to keep a limb at the risk of life without the surgeon's feeling it incumbent upon him to say, " Give me leave to amputate or I will do nothing for you" ? The science of surgery has not reached that exactness that warrants laying down the law and denying to the patient all right of judgment in a matter in which he is the one chiefly concerned, and it is not in keeping with the humane principles that should guide the medical profession to refuse all aid to a man because he makes a choice that is unwise when judged from a professional standpoint.—*Northwest. Lancet.*

LIMITS OF SERUM THERAPY

About two years ago, immediately after the treatment of diphtheria with antitoxin was sufficiently investigated to assure of its great efficacy those who had closely followed in medical literature its unprecedented success, and the demonstration of its value as a specific remedy for diphtheria, we called attention to the danger of taking it for granted that serum treatment would in all other infectious diseases be equally or, at least, approximately effective. That this warning was not unnecessary, time has demonstrated. Enthusiasts allowed themselves to be carried away by the beautiful theory of serum therapy, and took it for granted that in it a panacea had been found for any infectious disease. There can be no doubt that the many modern investigations having a bearing, more or less, upon the problems of serum therapy, are of the greatest interest. The gradual evolution of serum therapy, with a succession of discoveries that throw more and more light upon the subject, are properly received with much satisfaction and enthusiasm ; but the propensity of jumping at unjustified and premature conclusions in consequence of this enthusiasm is frequently manifested and by no means for the best interest of the cause of serum therapy. Whether a serum treatment is trustworthy or not must be determined by many investigators, and the results obtained should be practically unanimous. There are always some, of course, who will not be convinced by the most conclusive and unequivocal proofs. Whoever is not convinced, for instance, of the great benefits of vaccination, will probably be equally hard to convince of the efficacy of an approved and generally accepted antitoxin. The efficacy of serum therapy, moreover, must be demonstrated to the satisfaction of the medical profession in each individual infectious disease. No general conclusions are justified because a serum has been found efficacious in one or two diseases.

There are limits to serum therapy that may, in a measure, be theoretically defined ; but their exact position can only be determined by scientific research, and before they have been clearly and conclusively demonstrated every member of the medical profession should take care not to accept as facts mere hypotheses that have not been demonstrated to the satisfaction of the entire body medical.—*Med. Rev.*

THE CHURCH MISSIONARY SOCIETY AND THE DOCTORS

There is a proverb about the "willing horse" which appears to be peculiarly applicable to doctors. No class of men do so much work for nothing as they do, and, naturally, the more they do, the more they are asked to do. In the matter of certificates, for instance, there is a constant demand upon them for services which, though in the strictest sense professional, are yet for some occult reason expected to be gratuitous.

Why should a doctor give even a death certificate without a fee ? No lawyer would do such a thing without his "costs." Charitable associations will, of course, take all they can get—it is their nature to. But why should the Church Missionary Society expect a doctor to answer an exhaustive interrogatory about a "candidate" without fee or reward ? A correspondent has forwarded me a formidable schedule of "Questions to be answered by the ordinary medical attendant of candidate," which covers the whole personal and family history of the candidate in the most inquisitorial detail. Moreover, a full report on the physique, condition of the heart and great vessels, the lungs, the liver, the kidneys, the urine, and the uterine functions, is asked for. All this, representing as it does a laborious exercise of his professional skill, the doctor is expected to do for nothing ! All I can say is that if he does it, he must expect—and, I may add, he will deserve—to be victimized to any amount in the same way.—*The Practitioner.*

THE PREVENTION OF TUBERCULOSIS

If a poor, inoffensive leper is known to be at large, the people of a whole city shudder with fright and clamor for his confinement, compared to which death would be preferable ; but, toward a disease much more infectious than leprosy, and of which about 6000 people die yearly in New York city, the laity are totally indifferent, and the medical profession, as a body, still apathetic.

A persistent and diplomatic campaign of education may do something in the way of prevention, but tuberculosis is on the increase where it has always existed, and has appeared where formerly it was unknown. It has only recently transpired that regions like Colorado and Southern California, where tuberculosis was formerly unheard of, and whose climatic conditions have, in recent years, attracted hordes of tuberculous people, have become infected and now offer no immunity even to natives. This transformation, in the light of our present knowledge, is due to a contamination of that previously pure air by imported infectious material.

If whole regions can be thus infected, how much easier can public conveyances, public thoroughfares, places of entertainment and worship, workshop and salesroom, hostelry and private house, become the scene of abiding infection ! Much would be accomplished if the laity could be brought to a realizing sense of the infectiousness of the sputum ; but that is only the first step, and, sooner or later, it will transpire that only by a rigid quarantine can the disease be checked. By no known human means can it be stamped out.—*Med. News.*

ORIGINAL PAPERS

THE DIAGNOSTIC VALUE OF BLOOD EXAMINATIONS *

By THOMAS P. PROUT, M.D.,
Pathologist and Assistant Physician to the New Jersey State Hospital at Morris Plains

PERHAPS in no department of medicine has there been greater activity with more splendid results than has been manifest in the science of hematology during the past three years. I daresay could any one of us have been assured of the real possibilities in this line of work five years ago, he would have been inclined to accuse his informant of taking a very utopian view of things, if he did not really put the stamp of "lunatic" upon him.

Beginning with the time about ten years ago, when the apparatus of Gowers first came into general use for making blood counts in the different forms of anemia, there has been manifest a steady advancement, till at the present time not only anemia, but a host of affections, the early diagnosis of which is often obscure, have at last bowed to science and assumed an attitude becoming to things known, or at least knowable.

Since the laying of the broad foundations of this work by Ehrlich some years ago, a firm structure has gradually been builded, which I venture to say already exceeds the most sanguine hopes of its most enthusiastic projectors. The work of Ehrlich and his followers has enriched us with facts which prove that conditions arise in the blood which are not only aids in diagnosis, but actually pathognomonic of certain diseases. No one will deny that in differentiating between a number of diseased conditions presenting a similar symptomatology, any single fact which eliminates any one of them is of vast importance, and any group of facts which establishes the correct diagnosis beyond question is of still greater import. The facts presented by a carefully conducted blood examination have now become of sufficient importance that they cannot well be disregarded in any condition at all obscure. Let me present one or two examples:

A man of a dull, apathetic state of mind gradually began to show signs of illness. For several days he showed general malaise; took his meals very poorly, and was at last put to bed. A general physical examination at this time was entirely negative; there was no diarrhea, nausea, or vomiting, and the patient seemed to suffer no particular discomfort. There was, however, regularly an evening rise of temperature amounting to a degree or a degree and a half. A blood examination was made in the hope of finding the malarial organism, as the patient had suffered from a slight chill on one occasion. It was, however, not found, but the nature of the general and differential blood count was such that a diagnosis of some form of latent tuberculosis was suggested. Five months passed with no apparent change in the patient's general condition. The evening temperature continued, sometimes higher, sometimes lower, but always present. The suspected disease appeared at last in the form of tubercular disease of the os calcis, about five and a half months after its latent presence had been suggested.

A woman about fifty-five years of age, who had been previously healthy, gradually began to show signs of failing health. A little later, persistent vomiting of a greenish, watery material manifested itself, and an irregularity of the bowels which, together with the general appearance of the patient, suggested the existence of malignant disease of the stomach. Her downward progress was gradual, but persistent. Milk, well peptonized, became the only food she could retain. This, together with the existence of more or less persistent pain in the abdomen, and the general appearance of the patient, were considered quite conclusive evidence of the existence of malignant disease, notwithstanding the fact that no tumor could be felt in the abdomen. A blood examination was resorted to for the purpose of substantiating this diagnosis. The conditions found in the blood, however, were of such a nature that it could be

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* Read before the Morris County Medical Society, December 8, 1896, and contributed by the author to the A. M.-S. BULLETIN.

unhesitatingly affirmed that cancer did not exist, and further, the blood state was such that a diagnosis of pernicious anemia was substituted. Some months afterward the patient died, and this diagnosis was confirmed at the autopsy.

In another instance, a diagnosis of malignant disease of the liver was confirmed by a blood examination, and this diagnosis was also substantiated by subsequent autopsy and microscopical examination of the tumor.

The advancement in our knowledge of hematology during the past five years has necessitated the addition to our vocabulary of something between fifty and sixty words, all of which refer to the number, size, shape, staining proclivities, etc., of the red and white blood cells. Thus leucocytosis refers to an increase, and leucopenia to a diminution in the relative number of leucocytes. Erythrocyte is another term given the red blood cell, and refers to its natural color in the same manner that leucocyte refers to the natural color of the white cell. By their size the erythrocytes are known as macrocytes, megalocytes, and microcytes ; by their shape, round cells and poikilocytes ; by their staining qualities the leucocytes are known as acidophiles, basophiles, neutrophiles, eosinophiles, etc. ; while their supposed origin is expressed in the terms lymphocyte, splenocyte, myelocyte, etc. These are the more common terms in general use.

The normal number of red cells is generally placed at about 5,000,000 per c.mm., and the normal number of white cells at from 7000 to 10000 per c.mm. Any increase in the proportion of leucocytes above 1 to 500 red cells therefore constitutes a leucocytosis.

The existence or non-existence of a leucocytosis becomes of diagnostic value when those acute diseases are considered in which no leucocytosis ever normally exists. Tuberculosis is one of these diseases. It was by means of this fact that Limbeck was able to diagnose a tubercular meningitis from the suppurative form, and his diagnosis was confirmed by autopsy ; and this fact is now also utilized to differentiate typhoid fever, in which no leucocytosis ever normally occurs, from a host of acute affections in which a leucocytosis is the rule. Such are, for instance, peritonitis, pyosalpinx, pelvic abscess, appendicitis, etc., all of which present a well marked leucocytosis. I may add that its absence in suspected appendicitis should make one hesitate about operating.

In typhoid fever, the number of leucocytes may sometimes fall below normal (leucopenia). This is especially the case in the late stages of the disease. The absence of a leucocytosis, or an actual leucopenia, becomes of great diagnostic significance when we consider the fact that, beside tuberculosis and typhoid fever, there are only two other acute affections in which this condition of the blood normally occurs, viz., malaria and measles.

Ehrlich was the first to define the different forms of the leucocyte. He divided them into five principal varieties, depending somewhat on their staining reaction and supposed origin. The stains used were a slightly acid stain (orange), a markedly acid stain (acid fuchsin), and a basic stain (methyl-green), all of which were combined in proper proportion in a single mixture. The leucocytes were classified by Ehrlich into lymphocytes, large mononuclear cells, transitional cells, polynuclear neutrophiles, and eosinophiles.

The lymphocytes are small and rounded, and in size a little larger than a red blood cell. The nucleus is large in proportion to the size of the cell, and is surrounded by a mere rim of protoplasm. Many of these are neutrophiles in the sense that their protoplasm stains with a combination of both acid and basic stains. In other instances the protoplasm remains practically unstained. The normal percentage of this form of leucocyte is about 24.

A typical large mononuclear cell presents a nucleus which has taken the basic (nuclear) stain but slightly, the cellular protoplasm remaining practically unstained, or but slightly tinged with the basic stain. These cells are, therefore, some of them basophiles, and their normal number is about 6 per cent.

In the transitional cell, the nucleus shows the same staining proclivities as in the preceding ; but in addition, there is a tendency to divide and subdivide, as seen in the multinuclear cell. The protoplasm also shows a few granules which faintly take a combination of acid and basic stains. It would therefore seem that these are truly transitional cells—cells in a transitional stage between the large mononuclear cell, on the one hand, and the polynuclear neutrophile, next to be described, on the other. Their normal percentage is about 3.

The polynuclear neutrophile, or multinuclear leucocyte, is a large round cell containing two or more deeply stained nuclei, the cellular protoplasm at the same time showing granules tinged with a combination of acid and basic stains. These, therefore, are neutrophiles, and their normal percentage is about 65.

The eosinophiles are generally multinuclear cells, the protoplasm of which contains granules which take the acid stain only. They are also sometimes called acidophiles, and were named eosinophiles by Ehrlich on account of their marked tendency to take up eosin.

A differential count of the leucocytes consists in identifying the stained leucocyte in a dried film of blood and placing it in its proper column. This gives us the percentage of the different forms of leucocytes, and, to recapitulate, they are :

	Per cent.
Lymphocytes about	24
Large mononuclear cells about	6
Transitional cells about	3
Polynuclear neutrophiles about	65
Eosinophiles about	2

Normal blood may present a variation of 2 to 4 per cent. from these figures.

How does the differential count of the leucocytes become of value in differential diagnosis ? For the sake of illustration, let us suppose that we are confronted by two cases, A and B, both apparently very seriously ill, both anemic, both cachectic, both emaciated, but suffering from diseased conditions referable to different organs of the body.

A specimen of A's blood; stained in the usual way, shows, in addition to an increase in the number of leucocytes (leucocytosis), a poikilocytosis and megalo- and microcythemia, and a few nucleated erythrocytes. B's blood presents the same appearances to a more marked degree, except that there is no leucocytosis. The differential count of the leucocytes in the two cases will stand as follows[1]:

	A's Blood Per cent.	B's Blood Per cent.
Lymphocytes	5.8	54
Large mononuclear and transitional leucocytes	4.8	6
Polynuclear neutrophiles	89.4	39
Eosinophiles	0.0	1

When we take into consideration the primary findings in the blood, A's count is typical of malignant disease of the internal organs, B's is typical of pernicious anemia. Both, it will be noted, vary widely. The condition of the blood in this form of malignant disease has also been successfully used in differentiating between cancer of the esophagus and aneurism of the arch of the aorta. It can easily be seen how this is a point of great importance, when it is considered how possible it is to have the two conditions almost exactly simulated as regards their subjective and objective symptomatology. The blood, however, presents a practically normal state in aneurism, while in cancer, as we have already seen, changes of an unmistakable character are manifest.

Let us suppose another case, C, a case of tuberculosis presenting, possibly, very much the same appearances as the two former cases. An examination of the blood, however, presents an entirely new picture. In addition to there being no apparent anemia, there is no leucocytosis, no poikilocytosis, or macro-, or microcythemia. Further, there are no nucleated red blood cells. When we come to the differential count, we find, again, a very decided variation from either the normal standard or the two previous blood counts.

	C's Blood Per cent.
Lymphocytes	12.7
Large mononuclear and transitional leucocytes	8.8
Polynuclear neutrophiles	78.0
Eosinophiles	0.5

It will be noted that the lymphocytes, instead of being at the normal point, are very much diminished, and the multinuclear cells are correspondingly increased. This, together with the other facts, gives us some conditions quite characteristic of tuberculosis. The absence of nucleated red blood cells in tuberculosis, distinguishes it also from a number of other affections in which the presence of this cell is a notable fact. Such, for example, are leukemia, pseudoleukemia, phosphorous poisoning, and the anemia of tertiary syphilis, in all of which the nucleated red blood cell is present, as well as in the cachexia accompanying cancer of the internal organs and pernicious anemia.

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[1] The differential counts which are here given are actual.

The blood count in pulmonary tuberculosis distinguishes it in an unmistakable manner from another disease of the lungs, croupous pneumonia. As distinguished from the blood count in pulmonary tuberculosis, pneumonia presents a very high leucocytosis. In fact, this condition is so constant that its absence, or a very slight leucocytosis, has been found to be associated only with the more serious forms of the disease. This is the case to such an extent that the existence of a very slight leucocytosis has come to warrant a very guarded prognosis, and its absence indicates the existence of a very grave condition, almost invariably fatal. On the contrary, the existence of a high leucocytosis augurs favorably. This is, in fact, the class of cases in pneumonia that usually recover. Then, again, the differential count in these two diseases is entirely different. The leucocytosis in pneumonia involves the polynuclear neutrophile cells, so that we have a great increase in the relative number of these cells, and a corresponding diminution in the lymphocytes. A differential blood count in pneumonia would therefore appear as follows:

	Per cent.
Lymphocytes	4
Large mononuclear and transitional leucocytes	6
Polynuclear neutrophiles	88
Eosinophiles	2

It will also be noted that in this instance the eosinophiles are normal in number, whereas in pulmonary tuberculosis they are quite frequently diminished. This last fact serves also to distinguish tuberculosis from those diseased conditions in which there is a positive increase in the eosinophiles, viz., Graves' disease, leukemia, nephritis, chronic malaria, and asthma.

In conclusion, I wish to say that I realize fully that I have failed to cover the whole field of this subject, and I have no doubt you will all point with one accord to the malarial organism, the presence of which is alone demonstrated by a blood examination, and remind me of a very serious omission. It was my purpose, however, in this paper to present some of the newer aspects of hematology, leaving out of account those blood states which are still matters of theory. As a discussion of the malarial organism involves so much that is mere theory, I have omitted its consideration entirely.

If, in thus touching upon the borderland of a field, the horizon of which is growing brighter, and the scope of which is daily broadening and assuming more and more the aspect of a true science, I have demonstrated a few points indicative of the general direction in which we seem to be tending, I shall feel amply repaid.

I am indebted to my colleague, Dr. M. L. Perry, for some of the material used in this paper.

Morris Plains, N. J.

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Artificial Widening of Contracted Pelvis

Wihl Pooth, of Cologne, in *Monat. f. Geb. und Gyn.* (III, No. 6), reports that by following the suggestion of Frank, he has operated in three cases of contracted pelvis, inserting a piece of bone between the ends of the pubic bones to keep them separated. The operation is performed through a transverse incision across the symphysis. A piece of each pubic ramus and the anterior part of the symphysis are chiseled off, forming a plate about 3 ctm. long and 1½ ctm. broad, and including nearly half the thickness of the bones. The posterior part of the symphysis is then separated, and the child extracted. The ends of the pubic bones are freshened, and the new plate inserted and fastened by sutures, thus holding the ends of the pubic bones apart about 3 ctm.

In the three cases reported there was complete bony union at the symphysis and no pain or inconvenience of any kind in standing or walking.

The diagonal conjugates before and after the operation were, respectively, as follows :

Before	9½ ctm.	After	11 ctm.
"	8¾ ctm.	"	10 ctm.
"	8¾ ctm.	"	10¼ ctm.

SELECTED PAPERS

ACCIDENTS AND RISKS IN USING ELECTRICITY GENERATED AT ELECTRICAL STATIONS AND TRANSMITTED OVER UNDERGROUND AND OVERHEAD WIRES TO OPERATORS IN ELECTRO-THERAPY*

By J. A. CABOT, E. E.

NOT knowing any subject that would more interest our association as a whole, and the members individually, than the above, I respectfully submit the following, as a warning to operators in electro-therapy:

The writer, in June, 1896, wrote letters addressed to twenty-seven boards of health of the largest cities in the United States, enclosing a question sheet with the following questions to be answered and returned to the writer:

1. Do you prohibit the use of current furnished by electric light companies for electro-therapeutic purposes?

2. Have there been any accidents to patients resulting from the use of current furnished by electric light companies? If so, how many?

3. Were they fatal? If so, how many?

4. What was the electromotive force or voltage on the line at the time the accident occurred?

5. If the line used was crossed by another line carrying a higher voltage, what was the voltage of the crossing line?

6. What was the normal electromotive force or voltage on the line used?

7. What safety device was in circuit (at the time the accident occurred) in the physician's office to prevent an excess of current flowing into the patient?

8. What was the character of the current used at the time the accident occurred? Galvanic (or dynamic)? Faradic? or Cautery?

Up to date not a single question sheet was returned with the questions answered, and only eight letters stating that there had been no report made of any accidents occurring in those cities, and only one city that prohibits the use of the so-called street current for electro-therapeutic purposes. This simply goes to show that only one city of the twenty-seven is alive to the danger which may result in using the so-called street current. Chicago prohibits the use of current from commercial circuits.

I here desire, gentlemen, to ask have any of you in this hall ever carefully examined the condition of the wires run on and over the roofs of the buildings in a city? I doubt if a single one of you can say "yes." If you will ascend to your roof and look around, you will find wires; copper wire and iron wire run in every direction, forming a perfect network; carrying all the way from 110 to 500 volts direct current for incandescent lighting and power purposes, and from 2500 to 4000 volts for arc lighting, and from 1100 to 2000 volts alternating current, a most dangerous potential. Are these wires examined by the companies owning them, for bare places? Are the fixtures examined for weak places? No, emphatically no. The electric light companies do not maintain a system of inspection to ascertain such defects; it is too expensive; they are satisfied to repair open circuits when a break occurs, clear the wire of a ground when a wire sags sufficiently to make contact with roof or coping, and then repair the lines in trouble; and not until such troubles arise do they do it. It is a common occurrence, yet, a daily occurrence, for lines to break and fall across other lines and roof-tops, for pins to work loose, and for insulators to break, permitting the wire to fall down on whatever it may. It is more than likely to be the wire over which current is transmitted for electro-medical purposes, and this may be covered with a so-called insulating covering. I heartily agree with Captain William Brophy when he says that he believes that the so-called insulating covering in use at the present time for high potential overhead circuits to be worse than a delusion and a snare. I believe it would be better to hang out the danger signal at once, by using bare copper wire, than to continue the use of this flimsy fraud that affords no protection to human life or property. Knowing the worthlessness of the material, it becomes necessary to use the best form of insulating supports. The present styles of glass insulators are only so in name. The very best grade of glass or porcelain should be used and the double or single petticoat pattern.[1]

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* Read before the American Electro-Therapeutic Association at Boston, Mass., October 1, 1896.

The writer, during his time, has inspected wires and fixtures in over fifty different cities in the United States, and has frequently found that it was possible to obtain the full potential of the dynamo by making contact with one leg of a circuit to ground through a voltmeter in wet weather, showing that the present insulators were useless as such, due to leakage on account of the dirty or sooty coating. These lines were free from actual grounds and were apparently in perfect condition. Therein, gentlemen, lies one of the greatest dangers to patients operated on by physicians using the so-called street current.

It is not for me to say what would happen if a line carrying 1100 volts alternating current should fall over the wires carrying current you are using to extract a hair or to remove a birthmark from a delicate woman's face, or should such an accident occur while you are operating in the nasal cavity, or when you were making a dozen other operations, you one and all know.

There is another element of danger which has not been taken into consideration, and which is liable to occur; namely, atmospheric electricity, or lightning. Imagine lightning striking a wire over which current is transmitted for electro-medical purposes. Such an accident might not happen in a hundred years, and it may happen at any moment.

Electric light companies place lightning-arresters at their stations, and at intervals along their lines to protect their property; but they do not place them at each service connection to protect their customers' property. It would be prohibitory on account of the cost of the arresters; yet I think the customers, particularly those customers who use their lines for electro-medical purposes, should be protected by a well-tried and reliable lightning arrester.

Fuse Metals as a Protecting Device.—In the early days of electric lighting it was found necessary to interpose in the circuit some material to protect lamps from burning out and protect buildings from fire. During the year 1881 the United States Electric Lighting Company, who were lighting the Equitable Building in New York City, placed a spiral of silk-covered No. 36 copper wire immediately on the outside of the switches (as they were then called, now sockets), to protect the lamps. Later the alloy fuses came out in the market for the same purpose. These fuse wires are unworthy of the name of "safety devices," and are not to be depended upon to protect patients undergoing a delicate operation.

I herewith desire to offer quotations from various sources and authorities to prove the utter unreliability of fuse metals as an element of safety. A prominent fuse wire company's catalogue says:

"The fusion necessarily depends upon all of the elements that affect this heating. It takes time to heat even a wire, and people are sometimes greatly disappointed because a fuse does not open a circuit with the rapidity of a photographic drop shutter the instant there is a sudden increase in load. It also shows, however, that on account of the time required to heat the fuse to melting point, one cannot expect to do the work of an automatic cut-out, which opens the circuit instantly at a set strength of current. If a sudden increase in current causes other serious troubles, an automatic cut-out is wanted—not a fuse."

I herewith desire to refer any one interested in this subject to a paper written by Mr. William McDevitt, and published in the *Western Electrician* of February 22, 1896, entitled, "Study of Fuse Problem and Solutions;" also Mr. McDevitt's report to the Philadelphia Board of Underwriters, entitled "The Gross Unworthiness of Fuse Metals and Appliances as a Means of Protection for Electric Circuits." For those who do not care to read this article, I present some of his experiments and deductions:

"Test No. 2.—Five-light fuse blew at 26 amperes, over ten times its rated capacity.

"Test No. 3.—Five-light fuse or 3½ amperes, ten to twelve tests on fuse without blowing with current of twenty-seven amperes, opened current breakers every time. After this fifteen amperes were run through same fuse for 1½ minutes; heated fuse slightly but did not blow, then same fuse carried thirty amperes for nine seconds, and became red hot before blowing."

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[1] See *Electrical Engineer*, XX, No. 396, "Insulation of Overhead and Underground Circuits."

Appreciate the danger in using current from a circuit which is liable at any moment to come in contact with a heavily charged wire protected by such a safety device!

In the thirty-seven tests made by Mr. McDevitt he did not have a single fuse blow at its rated capacity.

The following lessons should be remembered by those using or contemplating using current from commercial circuits for electro-medical treatment:

First.—Fuses carry 50 per cent. to 200 per cent. current in excess of rated fusing current. (See tests.)

Second.—Under "short circuits" a fuse will carry excessively abnormal current. (See tests Nos. 1, 3, 6, 7, 38.)

Third.—Fuse metals of alloy, so as to have a low temperature melting point, will maintain at a red heat, making a serious fire risk. (See tests Nos. 3, 4, 5, 7, 8, 12, 33.)

Fourth.—Copper, aluminum, iron, etc., are not adapted for fuse metals owing to the high temperature required for fusing. To be reasonably sensitive, they must be maintained at a red heat which is not permissible owing to fire risk.

Fifth.—Fuse metals arc and make a serious fire risk. (See tests Nos. 14, 15, 19, 21, 23, 34, 35, 37.)

This phenomenon was very pronounced using different length fuses, and placing fuse blocks in different positions. In my judgment this is a fault inherent in fuse metals, due to the fact that the molten metal can still carry current and the arcing will jump across the slight distances intervening between the terminals and the molten metal, although an arc can be maintained without the presence of the molten fuse metal.

Sixth.—Inclosing a fuse is not safe, as the gases generated upon the fusion of the metal will continue to carry the current in event of a short circuit.[2]

Seventh.—Fuse metals are very sluggish in fusing, and in this particular make a serious fire risk, as the current flowing in many instances permits the wire under insulation to become hot, or intervening space between wires, if a leak arises, to become hot. (See tests Nos. 34, 35, 36, 37.)

Eighth.—Fuse metals are generally unreliable, as their position, length, age, oxidation, shape, composition, temperature, terminals, all affect their fusing point. No standard fuse block and fuse could be established but that some of these factors would enter to cause a variance in the results. (See tests Nos. 28, 29, 30, 31, 32, 33.)

Professors W. M. Stine, H. E. Gaytes, and C. E. Freeman, in a paper on "Heating and Behavior of Fuse Wires," read before the American Institute of Electrical Engineers (XII), say: "We may now summarize some of the practical conclusions deduced. Covered fuses are more sensitive than open ones. Fuse wire should be rated for its carrying capacity for the ordinary lengths employed.

"When fusing a circuit, the distance between the terminals should be considered. On important circuits, fuses should be frequently renewed (they are hardly renewed until they blow out or open circuit). The inertia of a fuse for high currents must be considered when protecting special devices. Fuses should be operated under normal conditions to insure certainty of results. Fuses up to five amperes should be at least 1½ inches long, one-half inch to be added for each increment of five amperes capacity. Round fuse wire should not be employed in excess of thirty amperes capacity. For higher currents, flat ribbons, exceeding four inches in length, should be employed." I am safe in saying that eight circuits out of ten are fused from three to five times beyond the necessary limit or the carrying capacity of the circuit, as I have frequently found that when a trouble-man was given a circuit to fuse he would put in a fifteen light fuse to protect five lamps, and if he had to fuse the same circuit again within a week he would put in a twenty-five light fuse. I have often found all lamps on a circuit broken, and on investigation found twenty-five, thirty, and even fifty light fuse in a circuit of five to ten lamps. Trouble-men do not like to visit dusty and damp cellars if they can avoid it by fusing the circuits heavily.

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[2] See paper read before the American Street Railway Association at Atlanta, Ga., entitled, "Destructive Arcing of 500 Volt Fuses."

Quotations and References.—One reason for the present dissatisfaction in regard to fuses exists in the universal practice of using the same fuse for different purposes. Again, fuses differ widely in comparison for like purposes. It should be remembered that the same fuse cannot fulfill different conditions, and, consequently, they should be constructed according to the kind of apparatus they are to protect; some should have a certain amount of inertia, and others practically none at all.

The surfaces of fuses are acted upon by the gases in the atmosphere, which form a coating of oxide or carbonate sufficiently strong to allow the metal to be held in place after it has become molten under the action of the current; the only remedy is a systematic replenishing.[3]

Knowing incandescent lamps would carry a greater volume of current for a limited time, than that which is sufficient to bring them to candle power if the voltage is increased, the tests below were made to ascertain just how high the voltage could be increased, and the amount of current forced through the filaments, also the time required to rupture them. The following instruments were used in making tests: A Weston Standard 300 Voltmeter, a Weston Standard 15 Amperemeter.

All of the above were 110-volt, forty-five to five ampere lamps. The machine used was a 225-volt generator, giving 200 volts at the switch board; lamp and ampere meter were connected in series, the voltmeter was connected directly to the terminals of the lamps being tested. These tests were made to correspond as nearly as possible to an accidental contact of a line carrying 200 volts with a wire used by a physician, in other words, what would happen if electro-medical instruments were protected by incandescent lamps acting as a safety device, proving conclusively that incandescent lamps should not be used as such, as they will carry 1.1 amperes for eleven minutes and fifteen seconds, and then not break the filament, or open the circuit, at the moment of rupture permitting the passing of fifteen amperes into a patient, where one-half ampere would do great damage.

Time, Current and Voltage Required to Break Filament in Sixteen-Candle Power Lamp and Open Circuit:

Lamp No. 1.—(First test) voltage 192, current 1.1 amperes; time, eleven minutes and forty-six seconds. Filament did not break.

Lamp No. 1.—(Second test) voltage 194, current 1.1 amperes; time, one minute and fifteen seconds. Filament broke on top.

Lamp No. 2.—Voltage 194, current 1.45 amperes; time, eight seconds. Broken filament.

Lamp No. 3.—Voltage 184, current 1.6 amperes; time, two seconds. Filament and platinum leading-in wires gave way.

Lamp No. 4.—Voltage 196, current 1.0 ampere; time, twenty-five minutes and thirteen seconds. Filament broke on side; intense blacking of globe.

Lamp No. 5.—Voltage 188, current 2.5 amperes; time, two seconds. Platinum wires gave way at stub.

Lamp No. 6.—Voltage 192, current 1.4 amperes; time, ten seconds. Filament broke at top.

Lamp No. 7.—Voltage 192, current 1.4 amperes; time, ten seconds. Short-circuited at stubs; burned off the platinum wires, with intense blackening of globe. Inner tube shattered.

Lamp No. 8.—Voltage 196, current four amperes; time, twelve seconds. Platinum wires burned off at stubs; very slight blackening of globe.

Lamp No. 9.—Voltage 120, current fourteen amperes at moment of breaking; time, one second. Short-circuited at stubs; inner tube shattered; intense blackening of globe.

Lamp No. 10.—Voltage 198, current two amperes; time, three seconds. Short-circuited at stub; inner tube shattered; intense blackening of globe. At the moment of breaking, the current rose to fifteen amperes.

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[3] See Captain William Brophy's criticism, XII, American Institute of Electrical Engineers.

Lamp No. 11.—Voltage 196, current two amperes; time, five seconds. Inner tube fused, whole lamp shattered; at moment of breaking, the current rose to fifteen amperes.

Lamp No. 12.—Voltage 196, current 1.6 amperes; time, one and one-half minutes; then inner tube fused and shattered; intense blackening of globe.

Rheostats.—Rheostats, as a safety device for electrical instruments on overhead and underground circuits, are a delusion and a snare; according to Ohm's law, "C" equals "E" over "R." They are unreliable, to say the least; the operator sets his rheostats for fifty, 100 or 150 milliamperes to suit the operation to be performed; a line carrying an increased voltage over that falls on it, the current is increased to a dangerous, if not fatal, degree for the reason "R" remains constant, "E" increases, correspondingly "C." The operator's attention is not on the milliamperemeter (even though it was, he could not handle the rheostat quickly enough to check the increased current), and the unfortunate patient receives a shock to his nervous system, or a bad burn (in cauterizing). There is always the danger of the coils in a rheostat (except those where the conductors are imbedded in porcelain or clay) burning out, crossing and cutting out coils, thereby permitting an abnormal flow of current.

The concluding paragraph of an editorial printed in the *Western Electrician* (No. 10, XIX) is as follows: "While electricity, properly administered by competent practitioners, is undoubtedly beneficial in certain cases, its use as ordinarily applied is more often harmful than curative, and when the current is derived from a public lighting source, is positively dangerous." A copy of this paper should be procured, and this editorial carefully read, by every physician using "electricity" from commercial circuits.

If some physicians should practice medicine with as little knowledge of the effects of poisonous drugs as they have of the physical scientific effects and results of the application of "electricity" to the human anatomy, they would be ostracized by the medical fraternity and considered "quacks." It is my belief that a physician should take a course in electricity and its practical applications, so that he may be fully competent to judge for himself whether a circuit and the source from which he receives his current is perfectly safe. Should a physician use electricity and by some means or accident disable a patient permanently, he would be liable for damages in a court of any jurisdiction. There is not a body of intelligent jurymen that would not award damages and consider such an accident malpractice. As a physician is considered the acme of intelligence, he should have full knowledge of the workings and results of what he is using, be it drugs or electricity; if not, he should at least know how to prevent accidents, thereby protecting the patient who innocently places his life in his hands, expecting to be relieved or benefited, if not cured of the disease of which he is afflicted.

Current from commercial circuits, if such circuits must be used, should be employed for cautery purposes only; and said circuits should be protected by a lightning arrester and magnetic cut-out, capable of instant adjustment to the current, for the particular knife or snare in use at the time. The rheostat should be of that type known as "ironclad," that type wherein the conductor is imbedded in porcelain, making it impossible for the conductors to come in contact.

There are two sources of current available for electro-therapeutic purposes:

First.—Primary batteries for galvanic and faradic, and secondary or storage batteries for cautery. By the use of primary batteries for galvanic or faradic purposes and storage batteries for cautery, a patient is perfectly safe from the danger ascribed to the use of current from commercial circuits, provided the batteries are carefully attended to and positively clear from crosses and short circuits.

Second.—A generator with a double-wound armature, one winding connected to a commutator with 100 segments each, coil in the armature having a difference of potential of one volt, the collectors to consist of one stationary and one movable brush; the movable brush to be capable of adjustment around the commutator by the operator, thereby setting the potential of the machine at the maximum voltage, necessary for any given operation or case; the other winding to consist of coarse wire also brought out to a suitable commutator of less number of segments, giving sixteen volts and twenty-five amperes for charging secondary or storage cells, then using the storage cells for cauterizing and energizing the faradic coils.

This machine, if driven by an electric motor directly connected, should have an insulated coupling, and also be thoroughly insulated, electrically, from the bed-plate.—*The Electrical Journal.*

THE RELATION OF THE MEDICAL PROFESSION TO THE PUBLIC WELFARE*

An Address by GROVER CLEVELAND, LL.D.,

President of the United States of America

MR. PRESIDENT, and Ladies and Gentlemen: I have anticipated the share assigned to me on this occasion with considerable trepidation, for various reasons. I have been chiefly disturbed, I believe, because of my inability to discover sufficient ground for my right to join those who celebrate the semi-centennial of a medical association.

If in passing through that period in boyhood when the desirable choice of future activity seemed to rest between the running away from home to be a sailor and staying at home to be a doctor, I inclined toward the more quiet and orderly of these pursuits, this surely furnishes no basis at this late day for a claim of relationship to the medical fraternity. Nor do I forget that less than seven years ago I was accorded the privilege of participating in the exercises when the corner-stone was laid of the building which is now the home of the organization which to-night celebrates its half century of useful and honorable existence. But this incident, which aroused an interest still undiminished, in the welfare of the Academy of Medicine, hardly entitles me to a share in the felicitations of those who have since borne the heat and burden of its work, while I have enjoyed the ease and happy surroundings of public station. Confessing, therefore, that I have no right to even standing room within the inner circle of the profession, I have boldly and without the least authority determined to speak to you as a representative of the vast army of patients and laymen.

At the outset I desire to remind you that you owe us much. Though largely in the majority and with plenty of members to spare, those who are well conducted among us do not vex you with hurtful competition. Instead of making life hard for you by an observance of the laws of health, we assist you by indulging in all sorts of irregularities. We are obedient and submissive to your commands, that is, when we are sick; and we sometimes pay your bills even after a recovery to health, which we are always certain would have resulted without your interference. In these circumstances, if when in perfect health we venture to assert ourselves and tell you what is in our minds, it is not fair to liken us to a certain personage who when sick a saint would be, though very differently inclined when well.

We begin by conceding most heartily and without the least reservation the learning and skill of those now constituting the medical profession, and the wonderful advance that has been made, through their untiring labors and investigations, in the alleviation of human suffering and the saving of human life. It may be that this seems to you an acknowledgment so much your due as to be hardly worth making. You should, however, value it because it is sincerely made by those who were not born yesterday, but who hold in lasting and tender memory the ministrations of the village doctor of fifty years ago, and are now the living monuments of his faithful care. He, too, alleviated suffering and saved human life. We know that it was not given to him to see the bright lights that now mark the path of medicine and surgery, but you cannot convince us that we groped entirely in the dark. We remember without abhorrence his ever-ready lancet and the scars of his blood-letting found in every household. We endure with complacency the recollection of his awful medicine case containing bottles, powders, and pills, which, whatever might be thought of them now, seemed then to be sufficient for all emergencies—to say nothing of the tooth-pulling tools and other shiver-breeding instruments sometimes exposed to view. If he was ignorant of many of the remedies and appliances now in use, he in a large measure supplied the deficiency by hard-headed judgment, well observed experience, and careful nursing. Besides, it was in his favor that he did not have to bother his head with so many of the newly invented and refined diseases that afflict mankind to-day. . He had no allotted hours for his patients, but was always on duty, and we knew the sound of his gig as it rattled past in the night. Your ways are better than his, but we desire you to regard this admission as all the more valuable because it is carved out of our loyalty to our old village doctor, who brought us through the diseases of childhood without relapse, who saved from death our parents and our brothers and our sisters in many a hard combat with illness, and who, when vanquished and forced to surrender, was present in the last scene to close the eyes of his dying patient and sympathize with those who wept.

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* Delivered before the New York Academy of Medicine at its semi-centennial celebration, January 29, 1897.

I hasten to say we do not for a moment suppose that advancement in the science of medicine and surgery has smothered the faithfulness and tender consideration which characterized the practitioner of former days. If we seek charitable service to the sick and suffering, a noble appreciation of obligation to humanity, and self-abnegation in the discharge of professional duty, we must look for them among our physicians and surgeons of to-day.

If we have now arrived at an understanding, you are, I hope, prepared for a suggestion quite in keeping with the extremely moderate and reasonable disposition that characterizes the patient and layman. You have invaded our benighted contentment and led us out into broad fields of scientific discovery. This has inspired us with a new-born spirit of wisdom and criticism which demands that new and larger fields be opened to our complacent gaze. You have penetrated the places where the germs of disease are hidden. We are quite certain that you should be required to destroy the origin of disease and ultimately usher in the day when the only escape from the world will be through a passageway marked "Old Age Exit." If this has the appearance of exacting too much, or if business considerations present obstacles to its accomplishment, I think we ought perhaps to reduce our claims or at least give our doctors time to find other employment.

In the meantime, those of us who are conservative must be allowed to hope that further investigation will continue to point the way to the prevention of disease. For this investigation we must still rely upon the efforts of those who have already done so much in that direction, encouraged and stimulated by such effective organizations as the Academy of Medicine. We are sure that this work, having arrested the attention of the world's brotherhood of medical science, will not be neglected, nor need we fear that America's contribution to splendid results will be deficient.

In some instances, however, investigation has performed its part, and only effective action in other quarters is necessary to supply needed remedies. In such cases, of course, you are absolved from all responsibility in your professional character by exhibiting dangers and warning against them. Thus, certain diseases, which you deem contagious, yet remain imperfectly isolated. You have demonstrated the peril to health of unwholesome water and noxious surroundings, and yet much remains to be done by way of protecting our people against these dangers. You have established a code of ethics which condemns charlatanism in all its forms; and yet ignorant pretenders roam over the land offering to perform miracles, or are located in our towns or cities, preying upon the weakness of the sick and afflicted, while men and women are allowed to die without medical attendance, deluded with the hope that faith will save them in their last extremity. Within the limits of your professional power and influence you seek to restrain any approach to criminal malpractice; yet newspapers disgustingly, though covertly, advertise the way to such crimes, and startle their readers with sensational tales of death and misery to which they are directly accessory. I need not suggest that such evils are allowed to exist by reason of the insufficiency of our laws or a laxity in their execution. I have intimated that for this condition you are not responsible in a professional sense; but are you sure that as citizens you are doing all in your power to remedy the situation?

The village doctor was not only our physician, but he was a man of influence in all neighborhood affairs. In every matter that concerned the good of the community he was at the front. He was President of the village, or represented his town in the county Board of Supervisors; and if he was ever late in visiting a patient it was because he lingered at the post-office to discuss the political situation. Thus he joined with the performance of professional duty a discharge of the obligations of citizenship. We cannot but think that the discoveries and improvements in the medical practice which we now enjoy are dearly bought if the members of the profession in their onward march have left behind them their sense of civic obligation and their interest in the general public welfare. We cannot accuse you of utter neglect of your duty to the country; and yet we cannot keep out of mind the suspicion that if your professional work in exposing evils were more thoroughly supplemented by labor in the field of citizenship, these evils would be more speedily corrected.

If laws are needed to abolish abuses which your professional investigations have unearthed, your fraternity should not be strangers to the agencies which make the law. If enactments already in force are neglected, or badly executed, you should not forget that it is your privilege and duty to insist upon their vigorous and honest enforcement. Let me also remind you of the application to your case of the truth embodied in the homely injunction: "If you want a job well done, do it yourself." If members of your profession were oftener found in our national and State legislative assemblies, ready to advocate the reformatory measures you have demonstrated to be necessary, and to defend your brotherhood against flippant and sneering charges of impracticability, the prospect of your bestowal upon your fellowmen of the ripened results of your professional labor would be brighter and nearer.

While thus suggesting the need of your influence in legislative circles for the accomplishment of reforms related to your profession, you will, I hope, permit me, in conclusion, to enjoin upon you the duty of an active and general interest and participation in public affairs for the promotion of your country's good in all its phases. Our Government was founded in the faith and anticipation that those who loved it most, and were best able to hold it steady, would be at its helm. Without this, it will surely go astray. Never did patient need your medical treatment more than the body politic now needs the watchful care of your patriotic and disinterested citizenship. No object of personal ambition, and no activity of professional life, should be permitted to withhold from our Government the tithe of devotion and service due from its thoughtful, intelligent, and educated citizens. The reward of a willing recognition of our obligation to watch and protect our free institutions, and preserve them from weakness and decay, will surely come when a just Government, supported by the patriotism of a loving people, shall bestow with equal hand upon us, and all our countrymen, the blessings of national peace, contentment, and happiness.

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X-Rays in Medicine and Surgery

Raw (*Lancet*, No. 3821) experiments on the cadaver, foreign bodies being placed within. All of these show distinctly and in all their parts in the skiagraph. The outlines of the viscera are well delineated also, the skeleton being most distinct. In another cadaver, thick copper wire was placed around the edges of the heart, lungs, liver, spleen and kidneys. Four calculi were placed in the gall bladder and calculi in the renal cortex, in the pelvis and in the ureter. The cavities were carefully closed and ribs replaced. With an exposure of sixty minutes a good negative was secured which showed all the points, the calculi being especially clear.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Treatment of Dysentery

Testavin (*Jour. de Méd. et de Chir. prac.*) employs in this affection hot injections of beechwood creosote. The enema consists of creosote, 15 grn.; laudanum, 10 drops; boiled milk, 5 fl. dr.; boiled water, 6½ fl. oz. It acts as an antiseptic, calmative, and hemostatic. Before using the creosote injection, the rectum is cleansed with a solution of boric acid and salicylic acid. The creosote enema is retained as long as possible. When retained over night, recovery is rapid. When there is marked intestinal irritability, the retention of the creosote may be secured by previously using a suppository of cocaine and belladonna. The use of calomel and salol is also recommended.

Etiology of Appendicitis

Dr. Brun states that appendicitis may result merely from infection of the appendix, which perhaps is more frequent than that of any other part of the digestive tract, owing to the abundant supply in this organ of glands and closed follicles. To explain the symptoms of appendicitis, there is no need of assuming that the appendix must be transformed into a closed cavity. Brun, in support of his belief (*Med. Week*, No. 50, 1896), cites instances in which the appendix was transformed into a closed cavity without the slightest symptom of septic appendicitis. On the other hand, cases are on record where in operations for the relief of peritonitis, of appendicular origin, the appendix was not stenosed, was of normal size, and without any retention phenomena.

Latent and Transient Pericardial Effusion

William Ewart, in the *Lancet* (No. 3821), stated that pericardial effusion is less infrequent than is sometimes thought, and may originate, run a short course, and disappear entirely unsuspected, analogous to cases of "quiet pleurisies." Three cases are cited; the first, one of nephritis. No symptoms pointed to such effusion. Physical examination by percussion found the areas of cardiac dulness characteristic, viz., irregular outline of both anterior bases, the left angle of dulness extending an inch and a half beyond the apex beat, which was felt just within the nipple at the normal hepatic level. External to the precardial dulness, fine crepitations on deep inspiration. The posterior basic dulness was well marked. After free purgation and diuresis, the cardiac area of dulness was found normal, the right angle of dulness gone, the left angle ending at the apex beat, and posterior basic dulness absent.

In this case, owing to cold taken, signs of pleural effusion on the right side were manifest, later on. The dulness rose to level of the fifth dorsal spine, continued forward at a lower level, occupying the interval between the nipple and the liver dulness, the latter being differentiated as faintly resonant relatively to the duller fluid.

The second case was one of valvular heart disease. On percussion, the dulness extending across from the border of the right nipple to one and one-half inches beyond the left nipple, and to about half an inch beyond the apex beat, which occupied the normal hepatic level, was distinctly angular at the right anterior base; the absolute dulness extended to the right well beyond the middle line of the sternum, and to the left as far as the center of the nipple. A well-marked posterior basic dulness was made out. Under treatment these physical signs returned to normal.

The third case was one of acute rheumatism. Here the characteristic outline of pericardial effusion was detected at the right thoracic base, while at the left base the dulness extended beyond the seat of the apex beat. Under antirheumatic treatment the area of cardiac dulness returned to normal.

The author lays stress upon the variation between the normal and abnormal physical signs by percussion and auscultation, the most telling physical sign being the alteration in the outline of normal cardiac dulness at the anterior base of the thorax, the point in diagnosis turning upon the alteration of the convexity of dulness due to the right auricle.

Prognosis of Pneumonia

Dr. Wm. Osler states that the toxemia outweighs all other elements in the prognosis of pneumonia. (*Amer. Jour. of Med. Sci.*, No. 297.)

Wells, of Chicago, in a paper on pneumonia, has grouped together statistics showing the death-rate of the disease. Of 233,730 cases, the mortality was 18.1 *per cent.* Age is an important factor. The old are likely to die, the young to recover. The disease appears to be much more fatal in the negro than in the white. Previous habits of life and the condition of bodily health at the time of the attack form the most important factors in the prognosis of pneumonia.

In twenty-five of Dr. Osler's autopsies at the Montreal General Hospital, the kidneys showed extensive interstitial changes. Individuals debilitated from sickness or poor food, hard drinkers, and that large class of hospital patients, composed of robust-looking laborers between the ages of 45 and 60, whose organs show signs of wear and tear, and who have by excesses in alcohol weakened the reserve power, fall an easy prey to the disease. Very few fatal cases occur in robust, healthy adults. Some of the statistics given by army surgeons show better than any others the low mortality from pneumonia in healthy picked men. The death-rate in the German army in over 40,000 cases was only 3.6 per cent.

Apart from certain complications, the fatal event in pneumonia may result from a gradual toxemia, or from mechanical interference with the respiration and circulation.

The toxemia is the important element in the disorder, to which in the majority of cases the degree of pyrexia and the consolidation are entirely subsidiary. The poisonous features may develop early and cause from the outset severe cerebral symptoms, and they are not necessarily proportionate to the degree of lung involved. There may be severe and fatal toxemia with consolidation of only one-half a lobe, while a patient with complete solidification of one lobe or of a whole lung may from beginning to close of the attack have no delirium. Many of the cases which show the most profound toxemia present variations from the typical picture; thus there may be no cough, no expectoration, very slight fever, and no leucocytosis.

Tuberculosis of the Heart

Dr. Ernest Barié remarks that the influence of tuberculosis in the pathogeny of cardiac affections was long denied. (*Sem. Méd.*, No. 50) Peter concluded that there is really a certain degree of antagonism, though by no means absolute, between tuberculosis and mitral lesions. Recent researches have shown that the tuberculosis may invade the heart itself, affecting the pericardium, endocardium, or even the muscle. Hence, there may be tubercular pericarditis or endocarditis, or tuberculosis of the myocardium.

Tubercular pericarditis is comparatively infrequent. It is observed at all periods of life.

It is usually secondary and consecutive to tuberculosis of the pleuro-pulmonary apparatus or tracheo-bronchial or mediastinal glands ; in some cases the pericardial tuberculosis remains to the end the only primary manifestation of the bacillary affection, presented by the patient.

The pericarditis, which is frequently dry throughout its evolution, then often ends in cardiac symphysis ; at other times, it is accompanied by a serous or hemorrhagic effusion, the latter, according to Virchow, possessing very great diagnostic value. The pericardial affection, which most frequently makes its appearance in the course of the evolution of tuberculosis, may remain unrecognized during the patient's life, especially since the attention of the medical man is drawn mainly to the numerous clinical manifestations of tuberculosis of the lungs. It should be looked for particularly when in a tuberculous patient supervene circulatory disturbances, more especially edema of the limbs not attributable to phlebitis, exaggeration of the dyspnea which cannot be explained by the development of the lesions, and, lastly, signs of venous stasis.

The physical signs vary according as the pericarditis is dry or associated with effusion ; in some cases they are those of cardiac symphysis, but there is no clinical phenomenon which permits of asserting the tubercular nature of the affection.

In some, much more infrequent, cases of primary pericarditis, the onset of the disease is acute, with fever, dyspnea and precordial pain ; but it soon assumes a subacute character, other tubercular manifestations, which supervene at this time, permitting of arriving at a diagnosis.

Tubercular pericarditis consequently runs a chronic course and almost invariably remains latent, lost, as it were, in the midst of other manifestations of tuberculosis. The prognosis is grave and the diagnosis very difficult. The only means of arriving at a certain diagnosis is the presence of Koch's bacillus in the effusion, which sometimes is so copious as to necessitate paracentesis of the pericardium.

Tubercular endocarditis appears to comprise two varieties, viz.: one in which microscropical examination clearly reveals the presence of Koch's bacillus in the nodules or in the thickness of the valves ; and another, in which no tubercle bacilli, but only the streptococcus, and sometimes no microbe at all is found. The second variety is doubtless due, not to Koch's bacillus, but to secondary infection by the streptococcus, or determined by the secretions of the former. Possibly also, as von Leyden suggested in 1895, tuberculous patients may be affected with endocarditis, entirely independent of the tuberculosis, as it would appear from a case under his observation, in which bacteriological examination revealed, not bacilli, but cocci.

Tuberculosis of the myocardium is met with principally in youth, seldom in childhood. In the very large majority of cases it is secondary, and follows tuberculosis of the thoracic organs.

The most frequent variety of lesion in tuberculosis of the myocardium is a large tubercle, the size of a lentil, a cherry, or a hen's egg (Pollak). This tubercle forms a mass, usually projecting inward or outward; it is grayish-white in appearance, hard, dry at the circumference with a yellow, soft, caseous center. Thus constituted, this mass, which sometimes is single, but more frequently multiple, closely resembles a syphilitic gumma, from which it is distinguished by the presence of giant cells and more or less confluent Koch's bacilli, and also by its being in immediate contact with the muscular fibers of the heart, whereas gummata are separated from the latter by a kind of shell or envelope of fibrous tissue.

A second variety is miliary tuberculosis, in which gray, more or less confluent, granules are scattered throughout the tissue of the heart; when they are superficial, they project beneath the endocardium. This form appears to be rarer than the first.

A third variety, equally rare, is genuine tubercular myocarditis, with sclerotic hypertrophy of the heart and bleaching of the cardiac muscle; in the interstices between the fibrous bands running through the myocardium, or in the midst of the latter, are found conglomerations of embryonic tissue and giant cells (Brehmer).

Clinically, tuberculosis of the myocardium is less known than any other part of the history of this disease. The affection does not manifest itself by any perceptible symptom, and frequently remains unnoticed. When morbid symptoms supervene, these resemble the constitutional disturbances observed in all cases of chronic heart disease. In Townsend's case, the tubercle, localized in the left auricle, was of sufficient size to compress the pulmonary veins, on account of which the patient presented marked cyanosis; there were also paroxysmal attacks of dyspnea and palpitation. Demme's patient, who also suffered from severe dyspnea, presented a series of syncopes. In Hirschsprung's case, there were slowness of the pulse, arhythmia and tachycardia. In those of Labbé's, there were also at first dyspnea and cyanosis; later on, edema supervened and the heart became enlarged; on auscultation, the heart sounds sometimes were regular, but at other times they presented a fetal rhythm; subsequently, *bruit de galop* developed, and during the last stage the sounds became less distinct and arhythmic. These are in fact the usual symptoms of ordinary myocarditis, there being nothing whatever to indicate that the affection was of tubercular origin.

Initial Rate of Osmosis of Blood Serum with Reference to the Composition of "Physiological Saline Solution" in Mammals

The following conclusions may be drawn from the experiments made by W. S. Lazarus-Barlow (*Jour. of Phys.*, XX, Nos. 2 and 3):

1. At a temperature of 37° C. the blood serum of the ox, horse, and sheep is, speaking generally, in osmotic equilibrium with a 1.6-per-cent. solution of sodium chloride placed on the other side of the membrane. This is approximately the same as saying that the initial rate of osmosis of the blood serum of those animals is equal to the initial rate of osmosis of a 1.6-per-cent. solution of sodium chloride, though the latter statement is not absolutely correct.
2. *Ceteris paribus*, the greater the amount of proteid which a specimen of serum contains, the more concentrated must be the solution of sodium chloride on the other side of the membrane necessary to produce osmotic equilibrium.
3. Owing to dialysis, a solution of sodium chloride which at first increased in quantity at the expense of the serum on the other side of the membrane, may later become absorbed by the serum.

Effect of Traumatism on the Appearance of Gout

Dr. Cornillon, of Vichy, in *Prog. Méd.* (Jan. 2, 1897), states that traumatism is often the cause of rheumatism, and occasionally of gout, making the latent malady show itself, which otherwise might never have appeared.

A man of 53 dislocated the left shoulder in a fall in 1887. His physician at once reduced it. Three days later came swelling of left knee, with heat and redness; next day, the big toe of same side was similarly affected. All joints became free in a few days, after which the attack returned in right knee and toe. He diagnosed gout. Four years later he perceived itching of the left hand on rising, which became swollen, red, and painful by night, and was worse next day. Six months later a sudden, unexpected douche of cold water precipitated another gouty attack of left knee, lasting a week. In this case the joint which was first injured—the shoulder—escaped the gout. Usually the injured joints are first attacked with the gout, and sometimes they are the only ones affected by it.

In 1895, a Swiss mountaineer slipped on the ice. To save himself, he stiffened himself quickly and noticed a sharp pain in the right foot. That night the big toe became so swollen, red, and painful that his physician, who diagnosed gout, gave a hypodermic to relieve pain, which lasted twelve days. One and a half years later a new attack of gout in same toe occurred without apparent cause, lasting six days. In both these cases the attack set in immediately after the accident and followed an acute course.

In 1893, M. X. was thrown from his carriage and badly bruised, without fractures or dislocations, and compelled to remain a month in bed and room. When resuming his usual habits of life, three months after the accident, his hands, shoulders, and legs were attacked with gout, causing immobility out of proportion to swelling and pain for one and a half months, and leaving semi-ankylosis of the fingers of each hand with nodosities between the proximal phalanges. All three cases occurred in "high livers," in comfortable circumstances, giving predisposition to such a dyscrasia.

[The author's final statement and principal thesis, that if they had not had the accident they would have escaped the gout, is *a non sequitur*.—Ed.]

The Influence of the Hemoglobin Content and the Number of Blood Corpuscles upon the Specific Gravity of the Blood in Anemic Patients

The results obtained by Dr. Geza Dieballa (*Deutsch. Arch. f. klin. Med.*, LVII, Nos. 3 and 4) may be summarized as follows :

1. The specific gravity of the blood chiefly depends upon the hemoglobin content, but in equal amounts of hemoglobin it may show differences up to 13.5 per 1000.
2. Ten per cent. hemoglobin (according to v. Fleischl) corresponds to a specific gravity of 4.46 per 1000 (according to Hammerschlag).
3. With an equal amount of hemoglobin, the specific gravity of the blood in women, under physiological as well as pathological conditions, is from 2-2.5 per 1000 lower than in man.
4. In blood rich in hemoglobin the specific gravity varies within wider limits than in blood poor in hemoglobin.
5. In consequence of hydremia of the blood plasma, the specific gravity of the blood is from 4-5 per 1000 lower in nephritis than in the secondary anemias with equal hemoglobin and blood corpuscle content.
6. In leukemia the specific gravity of the blood is higher than would correspond to the hemoglobin content. This deviation appears to be dependent upon the proportion of the leucocytes.
7. In chlorosis the specific gravity of the blood is about 2.5 per 1000 higher than in the secondary anemias. This peculiarity of the blood rapidly disappears during regeneration of the blood.
8. In those forms of pernicious anemias where the number of the red blood corpuscles in proportion to the hemoglobin content is greatly decreased, the specific gravity of the blood is about 2 per 1000 lower than in the secondary anemias ; during regeneration of the blood this peculiarity is lost.
9. Hence, the number of red blood corpuscles exerts a positive influence upon the specific gravity of the blood independently of the hemoglobin content, and the differences may amount to 4-5 per 1000.

Fetid Breath

According to a recent statement in *Sem. Méd.*, ichthyol is one of the best and most rapid cures for the fetid breath of ozena. The nose is first douched with a warm 2-per-cent. solution, and the mucous membrane is then swabbed with a 30-per-cent. solution. This is also good in cases of rhinitis and pharyngitis sicca, without ozena.

Dressing for Varicose Ulcers

M. F. Simonelli, in *Sem. Méd.* (XVI), declares that the following powder forms an excellent dressing for varicose ulcers of the limbs :

Sodium Chloride (finest powder)	10 parts
Menthol	1 part

The entire surface of the sore, which has previously been cleaned and washed, is dusted with this mixture. The menthol is added in order to make the application of the sodium chloride painless.

Under the influence of sodium chloride, the most atonic ulcers do not fail to become speedily covered with healthy granulations. When these latter have replaced the lacking tissue, the use of the mixture is stopped, since salt stimulates only the process of granulation, but does not possess keratoplastic properties, and it will be necessary then to employ the usual means for hastening the epidermization (grafting, cauterization, etc.).

NEUROLOGY AND PSYCHIATRY

Hysterical Fever

Dr. W. Gilman Thompson, in the *Med. News* (LXX, No. 1), in an article on this subject, exposes the "faking" of the subjects in whom it has been reported very high temperatures were found to exist. Such reports, some rendered in good faith, show that men have lived after body temperature of 122° F., and one case was reported where the thermometer recorded 148° F. (64.4° C.).

The 148° F. patient, described by a writer in the *Transactions* of the Association of American Physicians (Vol. X) is an arrant knave and malingerer, and was identified as an old acquaintance turned out of the Presbyterian Hospital when the temperature, taken in the mouth by the writer, was found to be normal a few minutes after the nurse had reported it 109° F. He had also an "hysterical" or rather malingerer's breathing, which disappeared at once when he was accused of being a "fake." Three days later the man appeared in the Surgical Division of the New York Hospital, where trephining him for a supposed cerebral abscess was seriously considered. He was very much surprised and disgusted on being again detected, and left at once. A member of the house staff identified him also as a patient who had exhibited his "hyperthermy" at a Philadelphia hospital one or two years before.

Absurd fluctuations occurred in this man's temperature; in one instance the record dropped 15.8° F. in five minutes. (The highest temperature in sunstroke cases cannot be reduced faster than 1° F. in three or four minutes with safety.)

A similar case was reported by Dr. Peabody (*Med. Rec.*, 1895), of a young woman who was examined repeatedly for possible splenic or subdiaphragmatic abscess. She, however, was content with the modest temperature of 108° to 110° F., but this she maintained at intervals for many months.

The methods adopted to obtain a record of these high temperatures are doubtful. It is certainly not done by friction or pressure, for this experiment has been tried many times without success. It must be done by sliding the scale in some manner. The ordinary clinical thermometers usually do not register above 110° F. on the scale, with room for 1° or 1½° beyond. The only other thermometers suitable for rectal use, and purchasable ready-made, are those employed by beer-brewers and those made in Europe for thermostats, etc. These thermometers have small bulbs, but large stems; they are without indices, and when tipped a very little below the horizontal line, the mercury can often be made to slide along the scale without the application of any other force.

"There is no doubt whatever that the majority of these so-called 'hysterical fever' cases are not hysterical at all, in the sense of being in any way controlled by a hypersensitive condition of the heat centers of the nervous system. An hysterical condition may lead to deception in this matter, as in many others; but it is safe to assert that all human-body temperatures above 117° F. (47.22° C.) are instantly incompatible with life, and the records of them are only obtained through wilful deception on the part of the patient."

There is only one way to prove the genuineness of any such temperature, and that is to take the temperature of the urine, the moment it is voided, by a thermometer which is never allowed to come in contact with the patient's body in any manner.

Insanity in Children

Among the causes of insanity in children, Dr. Conrads (*Amer. Jour. of Insan.*) places heredity first; next, the condition of the child's education and training, management by nurses, and discipline and methods at school. He gives prominence to psychic causes, as fear, shame, and mental shock, and lays stress upon the evil effects of religious excitement in predisposed older children. Onanism as a cause is overestimated. Among the lunatic causes, acute infectious fevers are first in frequency. He believes that moral insanity rarely exists without some mental impairment, and sexual perversion is often present.

Erythromelalgia

The Vienna correspondent of the *Lancet* (No. 3825), says:

"Dr Schenk has described a case of erythromelalgia in an article published in the *Medicinische Presse*, on the subject of his clinical investigations of the nervous system. This disease was first described by Graves and afterwards by Weir Mitchell, according to whom it is a disturbance of the circulatory system, whereas Vulpian named it 'paralysie vasomotrice des membres.' At present it is supposed to be the result of a disturbance of the nervous system. The symptoms include sleeplessness, urinary and rectal troubles, spinal ataxia, atrophy of the skin and the muscles of the upper arms, increase of the knee-jerks, analgesia alternating with hyperalgesia, and decrease of the sexual impulse. The urinary and sexual disturbances are due to a lesion of the vesico-spinal and genito-spinal centers which are to be found in the region of the fourth lumbar vertebra ; the ataxia points to a disease of the posterior column, the increase of the knee-jerks to an irritation which may be caused by an inflammation.

"The disease is no doubt due to vasomotor disturbance consequent on an ascending degeneration in the posterior column of the cord. Woodnut has also described a case of erythromelalgia due to myelitis."

Early Diagnosis of General Paresis

Dr. Charles L. Allen, in the *Virginia Med. Semi-Monthly* (No. 18), calls attention to the symptoms of this disease which occur earliest.

The early symptoms are mental and physical (somatic). Of the former, the most striking is the alteration of the mental personality.

We find in paretics the following mental states :

1. A simple feeling of well-being (euphoria).
2. Exaltation with delusions of grandeur (of great wealth, of superhuman bodily strength or mental ability, of enormous sexual power, etc.).
3. Simple maniacal excitement.
4. Depression with melancholic or hypochondriacal delusions.

Of these, the second is the most frequent and characteristic.

The greatest danger arises from the combination of euphoria and grand delusions, which may lead the patient into violent acts, that are carried out with an utter recklessness and lack of appreciation of consequences. These states, however, belong rather to the period of the developed disease than to the prodomal stage.

The earliest symptoms differ in no marked manner from those of severe neurasthenia—cerebrasthenia. Loss of sense of smell, tingling and numbness over limited areas, appearing and disappearing, are suspicious signs. The most important early symptoms are unequal size and altered reaction of the pupils, abnormality of the reflexes, especially of the knee-jerk, disturbance of the speech and handwriting, paretic seizure, muscular tremors, twitchings, and temporary pareses.

Pupillary changes may occur in one-half the cases five or even ten years before the disease is plainly manifest. They consist in inequality in size of the pupils, and in failure of one or both of them to contract for light, while contraction for accommodation is present—the "Argyll-Robertson pupil."

The reflexes, especially the knee-jerk, are altered early. The characteristic speech disturbance is due mainly to inability to coordinate the action of the muscles of the tongue and lips. The handwriting is apt to be altered early, because of muscular paresis and inco-ordination, while from mental failure, the composition suffers. Paretic seizures may early attract attention. Among symptoms which have some importance, but which should be interpreted with caution, are differences of innervation of the mimic muscles of the face on the two sides, seen on speaking and putting out the tongue ; deviation of the tongue to one side, tremor and inco-ordination of the fingers, one-sided headache with temporary disturbance of vision, "ophthalmic migraine," and sudden flushing of the face from vaso-motor disturbance.

The diagnosis between cerebral syphilis, chronic alcoholism, and general paresis, is usually difficult, often impossible. For the first, the evidences of comparatively recent syphilis, great irregularity, and rather rapid development of the symptoms, and improvement under treatment speak favorably. The symptoms of chronic alcoholism may resemble very closely those of general paresis. There may be vertigo, sleeplessness, tremor, similar disturbance of speech and writing, epileptiform attacks, and the knee-jerk may be lost through alcoholic neuritis.

Early Sign of Meningitis

A constant sign of commencing meningitis consists in the inharmonious movements of the chest and diaphragm (*Times and Register*). It exists from the beginning, and may serve to reveal it even in insidious cases. It requires careful searching. The chest and abdomen must be bared, but not suddenly, or the hyperesthetic skin will take on accidental movements from the action of the air.

In the first period of meningitis, irregularity of the rhythm, and then inequality of the amplitude or development of the chest, are seen. Another sign is the irregular type of respiration and dissonation of the movements of the chest and diaphragm. The respiration is effected by the lower respiratory muscles of the chest. There is either immobility or depression in the umbilical region with each inspiration, instead of the normal elevation. These movements are not connected with the Cheyne-Stokes type of respiration.

SURGERY

GENERAL

Thirteen Operations for Recurrent Sarcoma

The *Lancet*, November 7, 1896, cited by the *Med. News*, contains a history, given by Eliot, of a series of thirteen operations performed by him upon a patient, 75 years of age, for myxo-sarcoma of the right scapula. The first operation was performed in September, 1892, the patient then being 71 years old. The growth recurred in a year, and was again and again removed, at intervals of from one to six months. In May, 1895, the arm was removed, together with the outer third of the clavicle, and what remained of the scapula. The patient made a good recovery, and four months later there was no evidence of recurrence. Eliot is convinced that although the disease recurred and caused the patient's death, the removal of the whole extremity was nevertheless advisable, as the extension of the growth into the axilla was causing the patient great pain.

The Mechanics of Flat-Foot

J. C. Schapps (*Brooklyn Med. Jour.*, No. 106) considers the muscles of much more importance than the ligaments, and points out the fact that in standing and walking, the toes and front of the foot form the fixed end, and that the muscular action is exerted mainly from both ends or the middle. The tendon of the flex. long. pol. has its origin in the distal phalanx and may be regarded as the principal bow-string. In rising on the toes it raises the metatarso-phal. articulation, and the bones here, as well as at the heel, ride as it were on a tight rope. The flex. long. dig., crossing this tendon, draws it upward and so increases its tension. The tendon of the tib. post. supports in a similar sling the head of the astragalus. These three muscles also support the internal malleolus and prevent pronation of the foot. When standing on the toes, the back part of the foot is partly suspended therefore by the annular ligament, upon the tib. ant. and extensor tendons passing under it, and partly supported on the flexor tendons, while the body weight causes it to slide downward. The arch is increased as the heel is raised, and this action, it must be remembered, is not accomplished by the tendo Achillis muscles alone, as in that case the arch would be obliterated.

Ingrowing nails, hallux valgus, hammer toe and corns not only diminish the ability of the fore-foot to bear weight and stand strain, but also tend to cause eversion of the foot, which in turn allows the astragalus and inner malleolus to become more prominent. The body weight should, on the contrary, be transmitted from the great toe upward, *outward*, and backward. Tight stockings are almost as injurious as pointed-toed shoes. Rheumatism and gout are causes and serious complications of some cases, on account of the pain and restriction of motion. The weakness of bone, muscle, and ligament in rickets, the increased pressure on the inside of the foot in knock knee, paralysis of the muscles, and sprain of the ligaments are mentioned by the author as causes. Overstrain of healthy muscles, or the ordinary strain on intrinsically weak muscles, may also produce it. The author does not mention a shortened tendo Achillis in this connection, though Dr. Shaffer has proved this to be an antecedent condition in many cases of flat foot. Here the ankle flexion being blocked, throws an injurious strain on the medio-tarsal joints.

The objects of treatment are to restore the bones to their normal positions, and then secure efficient muscular activity. Where there is considerable pain and muscular spasm, Dr. Schapps advises two or three weeks' rest, in the best position, before forcible attempts at correction are made. In older cases, with marked rigidity and deformity and but little pain, the feet may at once be over-corrected under anaesthesia, and put up in plaster splints for five or six weeks. When rheumatism is present, harsh treatment may rekindle it and produce even more adhesions.

Mechanical supports must be used after the flexibility of the foot has been restored, until the muscular supports become normal. The author details a method of making arched steel soles he had successfully used for six years, which renders them available to anyone who can handle a few common tools.

Dies were made from plaster casts of a well-developed adult foot, and soft sheet-steel (18 or 20 Stub's gage) soles easily shaped in them for any sized foot, since the arches of large and small feet were found to correspond simply to a larger or smaller part of the convex surface of a cone. The plates were trimmed to extend to a point just behind the heads of the metatarsal bones, and on the inside to just below the scaphoid and head of the astragalus. There was no outside flange. The author does not think it necessary or advisable in many cases to extend the inside flange, as Whitman does, higher up the inside of the foot, since "as the arch yields to pressure upward on the under side of the head of the astragalus and the scaphoid, these bones must necessarily be carried outward towards the median line of the foot." The under side is also padded better for pressure. If there is much pronation of the foot, the shoe may be built up on the inside—rather than resort to lateral pressure.

These steels do not supplant muscular activity; for when the muscles are efficiently at work in raising the heel, the sole is lifted away from the steel. They do not stretch upward the supporting structures of the sole, because the flex. long. pol., the bowstring, is itself pulled up by the action of the flex. long. dig., and the plantar structures of a healthy foot are never stretched straight across the arch. A practical proof is also afforded in that after a while the hollow foot will be found to have drawn itself away from the plate.

Exercises are most important in the treatment. Rising on the toes, turning the heels outward and descending, should be performed, till the muscles ache, several times daily. Active and passive eversion and supination are also excellent exercises.

When from paralysis, age, or some permanent condition the muscles cannot resume their functions, the soles may be worn indefinitely with comfort, but usually they may be discarded after a time.

The Action of Ligatures on Corrosive Sublimate

In the *Wien. klin. Woch.* (IX, No. 39), Von Leignek gives experiments made by him to determine the effect of ligatures on solutions of mercuric chloride. He was led to this investigation by discovering that in a solution containing rubber drainage tubes, that was sent to him for examination, there was not a trace of the mercury salt, although supposed to contain it. He made two solutions, A and B, containing, respectively, 0.227 and 0.284 per cent. of mercuric chloride, and placed them side by side in similar bottles, exposed to light for nine weeks. Taking 600 c.c. of A, he added 120 gme. of rubber drainage tube. At the end of the nine weeks A contained only 0.0278 per cent., while B was unaltered. In nine weeks more A had not a trace of corrosive sublimate, while B remained unchanged. He now took 800 c.c. of a solution containing 0.175 per cent., and added 31 gme. of catgut, and 600 c.c. to which he added 22 gme. of silk. After three months' time, that containing the catgut had but a trace of mercuric chloride, and that containing the silk only contained 0.0437 per cent. In two months more the bottle containing the catgut had not a trace, while that containing the silk had still a minute amount. In six weeks more there was none in the bottle with the silk. A white precipitate in the bottoms of the bottles led the author to believe that it had all changed into calomel.

Amputation Statistics at the London Temperance Hospital

The original intention of the London Temperance Hospital was to provide for the treatment of cases without the aid of alcohol; but the governors, foreseeing the possible need of alcohol, introduced the rule making it incumbent upon the medical officer to make full records of each dose of alcoholic stimulants given.

From July, 1888, to date, alcohol has only been used in two cases of amputation, one of which died, though the alcohol, probably, had no bad effect, the patient being a sufferer from carcinoma of the thigh, with secondary carcinomatous deposits in other organs.

Mr. W. J. Collins, writing in the *Lancet* (No. 3828), gives the following table of results :

	For Disease.		For Accident.	
	Cases.	Deaths.	Cases.	Deaths
At Hip	4	..	..	..
Of Thigh	9	1	2	..
Of Leg	7	..	5	..
Of Foot	6	..	..	..
Of Toes	12	..	..	..
Of Arm	..	..	2	..
Of Forearm	2	..	..	..
Of Hand	..	..	1	..
Of Fingers	19	..	6	..
Totals	59	1	16	..

The grand total is 75 cases, with 1 death.

Plaster-of-Paris Bandages

Dr. H. C. Lovis, in the *Internat. Jour. of Surg.* (X, No. 1), calls attention to the necessity of rapidly applying the quick-setting bandages now on the market. Unless expeditiously applied, the good results desired cannot be obtained. He says that men used to handling slower-setting bandages, those requiring, say, thirty minutes to set, and unfamiliar with the fact that the quicker ones set in fifteen minutes, are liable to consume too much time applying the latter, with the result that they allow the plaster to partially set in the unapplied fabric, which by handling loses its confluence, becomes more or less granular, making a crumbly and unsatisfactory cast. A similar bandage, rapidly applied, produces a hard, firm, stony cast, satisfactory in every detail.

Many tests of these bandages conclusively proved to the writer that where failure to get a thoroughly satisfactory cast pertained, the poor result was not due to the bandage itself, but to faulty manipulation or failure to carefully read the directions given, which in this progressive age must be changed as improvements are effected, and should not be overlooked under the assumption that they are the same as before.

A New Operation for Fistula in Ano

The writer, Dr. W. Ely, in *Pittsburg Med. Rev.*, before discussing his new operative procedure, gives a few very valuable hints as to the preparation of the patient. He considers this of the utmost importance, and upon it depends, to a great extent, the success anticipated. The bowels should be emptied on the eve of operation by an efficient cathartic, the author preferring castor oil ; in the morning, before a liquid breakfast, a dose of sal Rochelle, to be followed with a simple enema, until all of the contents of the rectum are removed, and at the same time to administer an astringent to insure safety at the time of operation.

The region for operation should be thoroughly treated in a manner to render it absolutely sterile. The anesthetic should be given in all cases to insure relaxation of the sphincters.

The patient is now placed in the dorsal lithotomy position, and the sphincters should be stretched. The writer says this can be rapidly and easily accomplished by inserting the two thumbs in the anus and support the hands upon the nates ; having done this, the lower bowel is douched with antiseptics, and plugged above extent of sinus with a sponge on a string.

Insert a grooved director into the sinus emerging at the inner opening, if one is present ; if not, make one ; insert the finger and draw this end outside the anus, thus leaving the entire extent of sinus external to the anus, when it should be laid open throughout its whole course. If any ramifications be present, they should be summarily dealt with in a like manner, and all surfaces thus exposed thoroughly curetted and douched to prevent any infection of the subsequent wounds which are now to be made.

Thus far, as can be seen, the operation does not differ from those now in vogue ; but, instead of stopping here, as all of them do, we proceed to the distinctive features of the operation which consists in dissecting out all of the indurated tissues surrounding the previous sinuses, and, of necessity, including all of the pus-secreting membranes which lined the cavities. After this is done, there is left a clean wound, in healthy tissues. Evidently, what remains to be done to complete the operation is to close the wound, to do which, use a full-curved needle on a holder threaded with catgut, beginning from above at the inner extremity of the cave-like cavity formed by the excision, and proceeding outward until enough has been inserted to insure a complete closure of the wound. The sutures must be submucous—that is, insert the needle just beneath the mucous membrane on one side of the cut surface, carrying it completely around the wound and emerging just opposite, likewise excluding the mucous membrane.

The remaining wound in the mucous membrane is to be closed by a continous catgut suture, after which irrigate and dust the surface with a little iodoform powder, apply a T bandage and put the patient to bed, where he should be kept for at least a week, bowels kept confined, and the diet limited and fluid.

He may now be given an enema and allowed to get up, but for a week longer should be guarded so as to insure soft stools, if possible.

DERMATOLOGY

Subcutaneous Mercurial Injections in the Treatment of Syphilis

Ch. Abadie states in the *Bull. de la Soc. Franc. de Derm. et de Syph.*, that the difficulties and complications following subcutaneous mercurial injections can be avoided or overcome. They are dependent, firstly, on the nature of the mercurial solution injected; secondly, on the instruments employed. It is preferable to repeat the injections every two days and to give a lesser dose, and to employ water as a vehicle, which is readily absorbed, instead of a fatty body; and finally to mix with the solution used a certain proportion of cocaine, which deadens the local pain almost entirely. He usually employs a solution of bichloride or cyanide of mercury. The solution of the cyanide possesses the advantage of not forming a precipitate with the cocaine. This is the formula:

Mercuric Cyanide	50 ctg.
Cocaine Hydrochlor	50 "
Distilled Water	50 gme.

He always begins with a half-syringe to determine the susceptibility of the patient, the first injections being less well borne than the following. Instead of injecting the solution deep into the aponeurosis of the intra-muscular tissue, he injects under the skin of the subcutaneous cellular tissue, and massages lightly after the injection. The pain is less severe, and the absorption of the liquid is more rapid than in deep intra-muscular injections. He advises great care in the technique; the cannula of the needle should be of irido-platinum; heated every time in the flame of an alcohol lamp; this precaution prevents the formation of abscesses. In the malignant forms, or when the lesion affects one of the principal organs or the cerebro-spinal tissue, this method of treatment seems superior to all others.

He also refers to intra-venous injections. As they require much time and are of difficult manipulation, they should be reserved for the graver cases. In a child, 12 years of age, affected with hereditary specific parenchymatous keratitis who became deaf several months later, the ocular affection yielded to subcutaneous mercurial injection, but the lesion of the internal ear and the deafness remained uninfluenced. After twelve intra-venous injections of cyanide of mercury the patient began to hear, and after twenty injections the power of hearing was almost completely restored. He quotes the case of a patient 35 years of age, affected with spinal syphilis, who had contracted the disease twelve years previously, and had been cured by him of a grave specific iritis six years ago by means of subcutaneous injections. Two years ago this individual was affected with pains in the lower members, accompanied with paresis and complete impotence. He was treated by several syphilographers with large doses of potassium iodide and mercurial frictions, but without apparent benefit. Abadiè then resorted to subcutaneous injections, which had been so successful in the ocular affection. The patient was improved, but not cured. After obtaining these negative results, he decided on intra-venous injections, which cured the sexual impotence and the sensory and motor troubles of the lower extremities. The writer recommends intra-venous injections very highly in senile syphilis. He claims also that they improve the affection of the deeper membranes of the eye, which are so rebellious in such cases, and that this treatment has the advantage of not tiring the patient so quickly.

Treatment of Recent Syphilis with Tertiary Syphilitic Serum

The serum employed in the injections was taken from a hydrocele in a syphilitic man, who had acquired syphilis six years previously; the fluid from the hydrocele was emptied with a sterilized trocar into a sterilized bottle and was filtered before being injected. The writer, Prof. C. Boech (*Arch. f. Derm. u. Syph.*, XXXV) arrives at the following conclusions:

(1) The primary symptoms underwent involution more rapidly when treated with injections of serum than when expectant treatment was used. The induration of the glands in the primary period also improved.

(2)In those cases in which injections were begun in the post-chancre incubation period, the eruption of the secondary phenomena were somewhat delayed as a whole.

(3) The secondary symptoms were modified in a high degree; the exanthemata were, in part, scarcely noticeable, and the mild character of the affections of the mucous membranes was conspicuous.

(4) The general health improved pretty rapidly and regularly.

(5) The secondary period of eruption was markedly shortened throughout.

(6) The injections are more efficacious the earlier they are employed.

(7) Tertiary serum has proven more effective in his hands than the serum of the secondary period. According to the author, injections of serum do not in all cases influence the symptoms of the early period of syphilis as rapidly and visibly as the usual specifics, mercury and iodine. He is of the opinion that in spite of serum therapy it will be impossible to exclude the specific remedies in all cases. In six cases treated with serum injections it was noticed that the secondary period lasted on an average, four months and twelve days, and that all secondary phenomena on an average had ceased in six months and three weeks after infection.

EYE, EAR, NOSE, AND THROAT

Subconjunctival Injections of Sodium Chloride versus Mercuric Chloride in Various Ocular Diseases

Dr. Clarence A. Veasey, in the *Amer. Jour. of Ophth.*, says:

I.—Subconjunctival injections of solution of sodium chloride produce equally as beneficial results in the treatment of ocular affections as do subconjunctival injections of solution of mercuric chloride.

II.—The good results obtained from subconjunctival injections of solutions of mercuric chloride are not due to any specific action of the amount of mercury that may come in contact with the inflammatory process, but probably to the unblocking of the engorged lymph channels.

III.—Subconjunctival injections of solutions of sodium chloride are of the greatest value in treating iritis, and especially in checking the severe pain, relieving it, generally, in a very short time after the first injection is made.

IV.—Subconjunctival injections of solution of sodium chloride produce less discomfort than similar injections of solution of mercuric chloride, and never cause any adhesion between the conjunctiva and sclera, which so frequently follows injections of the latter.

V.—Subconjunctival injections of sodium chloride are of much value in producing the rapid absorption of subconjunctival hemorrhages, which, as is well known, are removed, as a rule, only by time.

Cocainization during Surgical Anesthesia

The value of cocainization of the nasal and mucous membranes before and during surgical anesthesia, says the *Edinburgh Med. Jour.* (Dec., 1896), as originally put forward by Rosenberg, has been confirmed by Gerster, Mayer and Theobald in a series of one hundred cases. The procedure is as follows:

The nose is freed from mucus, and 2 ctg. of a 10 per cent. solution of cocaine are sprayed into each nostril. Two minutes later a second application of 1 ctg. is made to each nostril, and anesthesia is begun. The application is renewed every half hour during the continuance of the administration of the anesthetic, and before removing the patient a final spray is administered. The advantages of the method are, less feeling of suffocation, owing to absence of odor of the anesthesia, a very short or often absent stage of excitement; vomiting is very rare, and subsequent nausea invariably absent.

Unilateral Albuminuric Retinitis, with Cases

Dr. G. E. de Schweinitz, in a paper with above title published in the *Med. News* (Dec. 19, 1896) and read in the Section of Ophthalmology in the College of Physicians, of Philadelphia, says that albuminuric retinitis generally involves both eyes, although he says it is common to have one eye more affected than the other. He cites Gowers as saying: "Both eyes are almost invariably affected;" Knies "Unilateral retinitis albuminurica is not extremely uncommon." The writer further quotes Despagnet as recording a case of monocular albuminuric retinitis in his statistical report of retinal diseases, observed in Galezowski's clinic.

He mentions other observers as reporting cases of this type, amongst them Dr. C. S. Bull, who analysed 103 cases and who remarks: "Both eyes were affected at the time of the examination in 54 cases, and both eyes became affected while the patients were under observation in 93 cases." The writer infers from this that there were 10 unilateral cases.

The cases which Dr. de Schweinitz has had occasion to observe are two, one of them being referred to elsewhere. This patient was a colored man suffering with Bright's disease. The fundus oculi of one eye was practically normal. The writer saw the case but once, and he is unaware of its ulterior conduct.

He goes on to report the history of a case of a negro laborer, 51 years of age, who was seen by the writer on June 13, 1896, and at that time complained of defective vision in his right eye. He had lumbar pain, and had noted increased frequency of micturition.

The physical examination of the case was made by Dr. Frances Janney and Dr. Mary Getty, eliciting the following: Mother died at the age of 55 and before death "had swelling in both feet." Father died from paralysis at the age of 69. No history of syphilis or alcoholismus. He had had measles, whooping-cough, typhoid fever (in 1869), and bilious intermittent fever, two years ago. Normal heart and cardiac action. He dates his illness three years back.

Vision of the right eye 6-15 unimproved by glasses; of the left eye 6-4 after correcting a low grade of hyperopic astigmatism. The pupil-reflexes and external ocular muscles were normal.

Ophthalmoscopy revealed congestion of the disc, but edges clear; extensive flame-shaped and irregular hemorrhages in temporal region, reaching to and beyond the macula and upper part of the retina nearly to the periphery; the lower half was practically free from pathological alteration; a few hemorrhages on the nasal side. Moreover, the writer found evidences of fatty degeneration, consecutive to previous hemorrhagic extravasations. The arteries about normal in size, veins slightly distended and tortuous. From other appearances that the fundus presented, the writer supposed that the primary lesion in this case was a thrombosis of venous branch; meaning by this that this case was an apoplexy of the retina, rather than a neuroretinitis.

The ophthalmoscopic appearances in the left eye were about normal.

The urinary examination showed granular casts, a large amount of albumin, no sugar. Sp. gr. varying from 1011 to 1031.

The vision has remained the same up to the present time, although the area of hemorrhagic extravasation has diminished. The unaffected eye continues to be normal.

Guest explains the occurrence of monocular retinitis albuminurica assuming an irritation of the sympathetic nerve of one side, due to a unilateral affection of the kidney. His case at the autopsy presented absence of left kidney. According to Knies, this observation does not permit the inference that in disease of one kidney the retinal affection will be monocular.

Some Affections of the Membrana Tympani

Dr. J. E. Sheppard in *The Laryngoscope* (I, No. 6) states that there is often great difficulty in making the distinction between diseased conditions of the drum membrane and those of the tympanum. Moreover, he finds that *simple acute myringitis* is a very rare condition, the writer possessing records of but three cases belonging to this class, and he doubts whether one of these cases should not be also excluded.

The summary of the remaining two cases is made as follows: In one case bathing was the cause; in the other it was not known. Symptoms: Severe pain, lasting two days in one case, six days in the other; slight tinnitus in one case, absent in the other; no discharge, moderate deafness in both. B. C. > A. C. in both cases. Otoscopic examination: No. 1.—Redness well marked and slight bulging in post. superior quadrant; rest of M. T. moderately congested. No. 2.—Multilocular bleb covering inferior half; upper part congested and swollen. Patients performed Valsalva's method, and the blebs were punctured, followed by escape of a few drops of serous fluid in both cases. On performing Valsalva again, no perforation; whistle was ascertained, proving that the fluid was in outer layer of drum.

Dr. Sheppard says myringitis hemorrhagica is really a form of acute myringitis, and, according to him, is not uncommon. In the majority of his cases this condition was associated with otitis externa hemorrhagica.

The causes were grippe, head-cold, lying in a draught, etc.; in one case the etiological factor was getting water in the ear; another was attributed to a severe attack of vomiting. Pain was usually severe, and was present in all but two of the author's cases; the other symptoms usually found were: Tinnitus, slightly bloody serous discharge, moderate deafness. Tuning-forks, Weber's test positive, in affected ear, and generally A. C. louder than B. C. The affection in the canal usually obscures a view of the drum. The blebs in canal are punctured to allow them to collapse in order to see the condition of the membrana tympani. The extravasations in membrane frequently are multiple, of a very dark dusky line. They appear as localized prominences and resemble bulging of the entire membrane. He considers the dark color a point of differential diagnosis. But if the blebs have already ruptured, the author says, it becomes a difficult matter to distinguish between this condition and a middle ear suppuration of an acute type with perforation. The differential points that the writer calls attention to are: In myringitis there is less deafness, we find no perforation, the depth of the canal is not so great as when the membrane is absent, there is no perforation whistle by inflation.

The treatment he pursues is: Puncture of blebs, going through no further than external layer of membrane. Local blood-letting, employing from one to three leeches in front of the tragus. Gentle use of hot douche once in three hours for two or three days. He formerly applied a blister behind and below the ear, but no longer practices this method, finding this procedure superfluous.

He goes on to consider various cases of myringitis circumscripta and myringitis chronica. In his cases of the latter type he was unable to discover any definite etiological factor. The symptoms present in a few cases were occasional moderate pain and inconstant tinnitus, and in all the cases slight, interrupted discharge usually foul smelling, and slight deafness. Pus was found in greater or smaller quantities in all cases; some granulation tissue usually covering a small part of the drum membrane. In two cases a very small polypus was found attached to short process of hammer, and in the author's opinion the remains of a more extensive myringitic inflammation.

The cases were treated by cleansing, by syringing or by the use of hydrogen-peroxide: If the granulations were large he applies chromic acid; if small, liquor ferri chloride, and in a few cases nitrate of silver from 120 to 480 grn. to the ounce. Finally he blows in a thin layer of powdered boric acid. As a rule, no home treatment was employed. This treatment should be repeated after three or four days if necessary. His cases have recovered after from one to four treatments.

Of the cases of myringitis traumatica which the author has seen, about 90 per cent. have occurred in women, and were due to the injudicious use of the hairpin in picking the ear. These cases presented tinnitus, pain, with deafness, in varying degree, and in rare cases slight hemorrhage. The patient should be warned against this bad habit. As a rule, we will find distinct evidence of traumatism in the membrane or external canal.

The author recommends the ear to be left alone, save when the pain is distressing, when he employs a leech, applied to front of tragus, with or without dry heat.

OBSTETRICS AND GYNECOLOGY

A Cause of Postpartum Hemorrhage

According to the *Med. World* (Dec. 1896): "Postpartum hemorrhage dependent upon pathological conditions of vascular, nervous or muscular systems is comparatively rare, and when due to other causes is the result of inefficient management." It may be caused by manual or mechanical dilatation of the os and by "stimulation of contractions by forcible manipulations or by drugs having similar action." These measures are often proper, but when unnecessary or too much used they are dangerous. They tire the uterus so that it cannot shut down on the open blood vessels when the uterus is empty. Too speedy placental extraction is another cause of hemorrhage. Generally no effort should be made to remove the placenta till after fifteen minutes. The uterus should be kept under observation to insure continuous contraction sufficient to prevent bleeding. "When the hemorrhage is very profuse and immediate death threatened, pack the whole uterine cavity firmly with the cleanest material at hand and use every means besides to excite uterine muscular contractions."

Streptococcic Puerperal Infection—Injection of Marmorek's Serum—Recovery

An interesting case of the above is cited by H. L. Reddy, in the *Can. Med. Rec.* (XXIV, No. 12), the patient, aged 20, being a primipara; labor normal, lasting 7½ hours. Ordinary aseptic precautions were taken ; the only abnormal thing to be noticed was an enlarged varicose vein at the inner side of the left labium near the posterior commissure. There was no laceration of either the cervix or perineum. On the third day a temperature of 100° F. developed, which increased on the fifth day to 104° F., preceded by a chill.

On examining the vulva, the varicose vein was seen to have burst, and on its site a whitish membrane was noticed. To the membrane was applied peroxide of hydrogen, intra-uterine douches given of permanganate of potash, and the vagina packed with iodoform gauze. Quinine and protonuclein were also given internally.

A bacteriological examination of the membrane was then made, inoculation in culture media and direct microscopical examination showing streptococci in fairly large proportion, along with numerous colonies of staphylococci, and streptobacilli which appeared to be saprophytic. The following day (the sixth) an injection of 10 c.c. of Marmorek's antistreptococcic serum (obtained from a horse) was given on the right side about the middle of the abdomen. For forty-eight hours following the injection, there were numbness and tingling of the extremities, but no pain, the seat of the injection being free from both swelling and redness. Within twenty-four hours the temperature fell to 100° F., and within forty-eight hours the temperature became normal. Hematuria, of a severe character, with increased quantity of urine, appeared on the second day following the injection, which, however, lasted but a few days. On the seventeenth day the patient left the hospital perfectly recovered, no signs of the local lesion being observable.

The author suggests that although puerperal infection may not always be prevented, when present we should endeavor to promptly arrest it, which may now undoubtedly be done if the condition is recognized early enough and antistreptococcic serum injected. In that it has proved of value in at least 50 per cent. of the cases used, the author concludes that not to give the serum a fair trial would lay one open to the charge either of ignorance or malpractice.

[In an editorial upon this subject in the A. M.-S. BULLETIN of Nov. 14, 1896, statistics are given showing the results of antistreptococcic serum injection in puerperal septicemia. Therein is also expressed the hope that, by perfected methods and completed technique, the serum treatment will prove a specific. At the same time it is suggested that the life of many a young woman depends upon the teachings of our learned professors in the lecture room.—ED.]

The Causes and Mechanism of Retroversion and Retroflexion of the Uterus

Dr. Hunter Robb, in the *Cleveland Med. Gaz.* (XI, No. 9), makes mention of the following factors as being concerned in the causation of retrodeviations of the uterus :

1. Congenital Defects.—A short vagina necessitates a forward position of the cervix ; this tends to bring the fundus and anterior surface of the uterus under the direct line of abdominal pressure. The ordinary distention of the bladder, which, as a rule, slightly elevates the fundus, now throws it backward, thus causing a displacement. A congenitally long cervix

cannot rest with its long axis crossing that of the vagina, but must accommodate itself to the axis of the vagina ; this also tends to throw the fundus backwards. Where the cervix is long, the body of the uterus is apt to be small and short.

In such cases which show a persistence of the fatal type, the normal position of the uterus is in retroversion.

2. Extreme distention of the bladder throws the fundus far back in the pelvis behind the median line. When this happens often, the malposition is liable to continue.

3. Impacted feces in the rectum extending up above the ampulla push the cervix down in the vagina, and thus change an anteversion into a retroversion.

4. A sudden severe strain put upon the abdominal muscles, especially when the bladder is full, brings about a retroflexion by forcing the uterus down when the pelvic floor yields.

5. Of all causes of retropositions, by far the most frequent is a relaxation of the vaginal outlet, which must be looked upon as a deficiency in the pelvic floor, and which leaves a smaller or larger surface over which no counter-resistance to the intra-abdominal pressure remains. As the adjacent vaginal walls are forced down, the uterus itself yields, and dropping down, is forced towards the outlet, the cervical end first feeling the effect because of the attachment to the vaginal vault, the fundus and anterior surface of the uterus subsequently receiving the force of the pressure.

The presence of a heavy or sub-involuted uterus, or a large infiltrated lacerated cervix, increases the rapidity of these changes.

6. Finally, inflammatory changes in the uterine supports, or the dragging of adhesions resulting from a pelvic peritonitis, may also cause retrodeviations.

The Physiological Separation of the Placenta

Ahlfeld, *Zeit. f. Geburt. und Gyn.*. (XXIII, Part 3), has made some further investigations as to the first steps in the separation of the placenta from the uterine wall, as it occurs after a normal labor. Most obstetricians are of the opinion that the observations of Baudelocque are correct, and that the placenta first separates at its center, and becomes drawn into the shape of a cone, finally separating around the periphery, and so being born with the fetal surface out and usually with the edge first. Duncan maintains, on the other hand,that the two fetal surfaces are opposed, and that the maternal surface is first seen at the time of the birth of the placenta. Fehling has recently published an article in support of Duncan's belief.

Ahlfeld shows that, at the time of birth, the placenta has already begun to separate, and that there can be no especial influence by the traction of the funis; and that, moreover, the amount of hemorrhage in those cases born with the fetal surface out, is not greater than in the other condition, as has been stated. Although the large majority of observers support Baudelocque and Ahlfeld, the latter writer urges upon all obstetricians the desirability of more extensive and careful observations upon this disputed point.

The Treatment of Metrorrhagia in Young Girls

For the treatment of irregular or protracted menstruation, which is not infrequently observed in young girls, Laroyenne (*Lyon méd.*, XXVIII, No. 26) recommends, in those cases not due to chlorosis, or to inflammatory processes, the thorough curettage of the endometrium. The writer has observed such conditions in eight cases; the patients were between 14 and 17 years old. The pathologic lesion was a fungus endometritis. After the operation, a mild etching with chloride of zinc may be desirable. After treatment, the intervals between the menstrual periods became longer, and the duration of the periods became shorter. Recovery occurred in all the cases.

Modern Views on Matrimonial Sterility

Dr. H. O. Pantzer, in the *Annals of Gyn. and Ped.* (1896, No. 12), suggests that many clinical observations and theoretical considerations favor the view that the function of ovulation precedes the primary occurrence of menstruation some time and may continue for some years after menstruation has ceased. Cases have also been reported where conception has occurred before menstruation ever appeared, and also after menstruation had ceased for some time.

According to Cook (1894), the girls of the Esquimaux marry and conceive when 14 years, and younger, whereas their menstruation first appears at the age of 19 or 20 years.

Henson's observations, based on 248 cases, show that conception occurs in greatest frequency immediately following menstruation ; that conception before a flow is a rare event.

Very early and late marriages are prone to be sterile. Fright, fear, and other preoccupied conditions of the psychei are impediments to conception ; so also are frigidity, dispareunia, adiposity, general debility, alcoholism, and tuberculosis; all these influences acting, probably, by inducing defective local circulation, and, consequently, modifying ovulation and menstruation.

Jolts sustained in early life may give rise to displacements and subsequent conditions which materially interfere, later, with the correct development and function of the genital organs.

Excluding the comparatively few cases of congenital sexual malformations, which absolutely preclude fecundation, sterility must now be regarded as essentially an acquired condition, and in some measure remediable.

The destructive rôle that gonorrheal disease plays in the production of sterility, as first pointed out by Noeggerath in 1872, is also referred to by the author.

The fact that man is frequently the cause of sterility is also referred to. In determining the capability of the male, therefore, it becomes necessary to examine his discharges for living spermatozoa, azoöspermia being present and the cause of matrimonial sterility in fully 50 per cent. of the cases, according to Graefe, of Halle.

Balloon Dilatation of the Cervix and the Vagina by the Champetier-Maurer Method

Dr. A. Mueller, of Munich, in the *Monats. f. Geburt. und Gyn.* (IV, No. 5), speaks favorably of the Champetier balloons as a means of dilating the cervix in nearly all conditions in which that operation is required, and thinks they are far superior to the elastic Barnes bags, and less dangerous to the patient than manual dilatation. Especially favorable results were obtained in a case requiring premature labor, which, for over a week, had resisted all the ordinary means of treatment, including bougies, dilatation of the cervix with Barnes' bags, and packing the cervix with iodoform gauze. A Champetier de Ribes balloon was inserted into the uterus, and traction made upon it. Labor came on quickly, and terminated in a little over twenty-four hours. Traction on the balloon plays an important part, and in some cases may be maintained by an elastic band attached to the foot of the bed, or by weights.

As filling the balloon sometimes proves troublesome, the author has made a device for accomplishing this. Each balloon is provided with a filler, consisting of a rubber bag of slightly larger capacity than the balloon. When the filler is full of water, it is screwed onto the balloon, and all the water squeezed from the filler.

BACTERIOLOGY AND PATHOLOGY

Is Animal Life Possible in the Absence of Bacteria?

Nature (No. 1419) says:

"Some ten years ago Pasteur, in one of those 'causeries du laboratoire' which those who were privileged to take part in will never forget, discussed with the young scientific men around him the interest which would attach to the nourishment of an animal from its earliest existence with sterilized food under conditions which would insure the absence of all microbial life. 'Sans vouloir rien affirmer,' he added, 'je ne cache pas que j'entreprendrais cette étude, si j'en avais le temps, avec la pensée préconçue que la vie dans ses conditions deviendrait impossible. . . . Que le résultat soit positif et confirme la vue préconçue que je mets en avant ou qu'il soit négatif et même en sens inverse, c'est-à-dire que la vie soit plus facile et plus active, il y aurait un grand intérêt à tenter l'expérience.'

"To decide this question, Messrs. George Nuttall and H. Thierfelder have carried out elaborate experiments in the Hygienic Institute of the Berlin University, with young guinea-pigs removed from the mother by means of the Cesarean operation. Every conceivable precaution was taken to prevent all access of bacterial life. The young guinea-pig was placed in a sterilized chamber, supplied with sterilized air, and it was fed exclusively upon sterilized milk. It had to be supplied with food every hour, day and night, a process which so exhausted the investigators that at the end of eight days, when it had consumed 330 c.c. of milk, and to all appearances was in perfect health and spirits, it was killed.

"A microscopic examination of the contents of the alimentary canal revealed no bacteria whatever; aërobic and anaërobic cultures in various media were further made of the intestinal contents and of the excreta; but in every case the culture tubes remained sterile, not a single colony made its appearance. Messrs. Nuttall and Thierfelder claim by these experiments to have proved conclusively that the presence of bacteria in the alimentary canal is not essential to vital processes, at any rate in the case of guinea-pigs; and they consider themselves justified in assuming that other animals, and also human beings, could similarly exist in the absence of bacterial life, as long as the food supplied is purely animal in character. Whether the condiditions would be altered by the addition of *vegetable* food to the diet, they next endeavored to determine. In this series of experiments the food selected was so-called 'English' biscuits, containing about 7 per cent. nitrogenous material, 9 per cent. fat, 17 per cent. sugar, 58 per cent. of other non-nitrogenous matters, and 0.2 per cent. cellulose; these, together with the milk employed, were sterilized before use. The same rigorous precautions characterized these experiments as the previous ones; more animals were, however, secured, and they were allowed to live longer. The weight of the animals was this time carefully noted, and during the ten days, during which the experiment lasted, one animal gained 23 gme. and another 11 gme. This calculation could only be an approximate one, as the experimental animals were not weighed when originally removed from the mother, and their initial weight was only arrived at by weighing the other guinea-pigs which were removed at the same time, but not experimented upon. Thus, in the case of vegetable substances, bacterial life is apparently also not essential for carrying on digestive processes. The authors made also as careful an examination as was possible with the limited amount of material at their disposal, of the urine, and state that aromatic oxyacids were undoubtedly present. This result they regard as confirmatory of E. Baumann's assertion that aromatic oxyacids may be elaborated independently of intestinal decomposition. To this point they intend, however, to return later; at present, further investigations are in progress with fowls, and the results will be awaited with the greatest interest, while immense credit is due to the authors for the ingenuity of their methods and the self-sacrificing laboriousness with which they have conducted the experiments.

Bacteria in Noma

In the Epitome to the *Brit. Med. Jour.* (No. 1854), a reference is made to a bacterial examination of Nicolaysen's, reported in the *Norsk. Mag. f. Laegev.*, the preparations for which were taken from the boundary between the necrosed and healthy tissue. In the first case a great number of bacilli and cocci were found; the bacilli principally in the necrosed tissues, whereas the cocci had penetrated for about 1 ctm. into the healthy tissue, and appeared to lie in the lymph spaces. They were smaller than the ordinary pyogenic cocci, and occurred in accumulations of various shapes. Both kinds of bacteria were decolorized by Gram's method. In the cultures two kinds of microbes were principally found—a non-pathogenic staphylococcus and a bacillus. The bacillus readily developed in all kinds of culture media, and formed opaque and colorless colonies; it did not liquefy gelatin, did not coagulate milk, and was easily stained by Gram's method. In bouillon it formed an abundant precipitate, and also changed its reaction from alkaline to neutral, and again strongly alkaline after six to eight days. It was polymorphous and resembled the diphtheria bacillus, but did not possess any pathogenic properties.

In the second case were found a number of bacilli decolorized by Gram's method, and a certain number of cocci which retained the dye after treatment by Gram. In all the cultures there was an abundant development of one kind of bacillus, which was found to be identical with the one found in the previous case. Subcutaneous inoculation with a piece of the necrosed tissue was made in a mouse, guinea-pig, and rabbit; the latter developed a large abscess at the place of inoculation and died of pyemia on the eighteenth day; the other two animals showed no reaction. Streptococci were found in the organs and cultures. The author believes his bacillus differs from the one described by Schimmelbusch.

The Pneumococcus of Fraenkel in Conjunctivitis

Gifford, in the *Arch. of Ophth.* (XXV, No. 3), says that the cases of catarrhal conjunctivitis in Omaha are not produced by the same bacillus as in New York and other large cities, and sums up as follows:

1. By far the most frequent cause of acute catarrhal conjunctivitis in Omaha and vicinity is the pneumococcus of Fraenkel.
2. He has been able to prove that this bacillus is directly contagious, and may also be caused by pure anaërobic cultures of the germ.
3. It is by no means, as has been stated, a disease of childhood, but is quite common among young adults, and occurs at least as late as middle life.

Bacteriological Examination in Diphtheria

Dr. F. Reid Mackay, in the December (1896) number of the *Edinburgh Med. Jour.*, in a paper on this subject, says: "A culture is made by drawing a portion of the membrane over a nutrient medium, the best being blood serum; secondly, a direct examination of the organisms present in the membranous exudate—this is done by teasing a portion of the membrane on a cover glass and staining with methylene-blue.

"In an intensely septic case, the micrococci and diplococci are shown by this method to be in vastly larger numbers than the Lœffler bacillus, which are points most valuable in the particular form of treatment which should be undertaken. Then, again, this method reveals various organisms that may be entirely overlooked in the culture preparation, on account of their slow growth, or their inability to grow on the particular medium used.

"In the great majority of cases this method clearly demonstrates the presence of Lœffler's bacillus, afterwards confirmed by the culture. It is quite the exception to find the culture method showing the presence of Lœffler's bacillus that has not been already detected in the film preparation.

"Then, again, a great advantage of the film method is that you get a result at once, and do not require to wait twenty-four hours, as in the case of the culture.

"This, of course, is most important in a disease like diphtheria, where instant action is required for the safety of those in contact with the case.

"Roux and Yersin (*Annales de l'Inst. Pasteur*, 1890) stated that it was possible to discover by the direct method a bacillus of diphtheria at once, in that way getting a rapid diagnosis. Of course, the presence of a large quantity of other bacilli may make this very difficult; and also, if the bacillus is not detected, it is absurd to say that the case is not diphtheria until further investigation has been made.

"Ernst distinguishes three varieties of the diphtheria bacillus: (1) Long bacilli, which are the typical bacilli described by all authorities; (2) intermediate, slightly smaller; (3) small bacilli.

"Certain observers lay a considerable amount of importance on the particular form present in any given case. Martin, for instance, found the short ones mild, the intermediate more toxic, and the long ones most toxic. He, however, states that in fatal cases, when the medium or short were present, they were associated with streptococci."

The Associated Bacteria in Diphtheria

Since the appearance of the observations of Roux and Yersin, the importance of the rôles played by the various bacteria occasionally associated with the diphtheria bacillus has been more and more recognized. Recently De Blasi and Russo-Travali (*Rif. med.*, Nos. 170-180) have made a study of 234 cases of diphtheria, in which a careful bacteriological examination was made. One of the most noteworthy facts developed by this examination was the discovery in a few cases of the association of the bacterium coli with the Lœffler bacillus, a form of mixed infection not previously noted.

The results were as follows:

1. The Lœffler bacillus was absent in twenty-six cases; here were found staphylococcus, streptococcus, pneumococcus, and bacterium coli. Two patients died. Omitting one death due to meningitis, the mortality was therefore 3.84 per cent.
2. Lœffler's bacillus without mixed infection occurred in 102 cases; mortality twenty-eight, or 27.43 per cent.
3. The Lœffler bacillus was associated with staphylococcus pyogenes in seventy-six cases, with twenty-five deaths; mortality, 32.89 per cent.
4. Associated with streptococcus pyogenes in twenty cases, six deaths; mortality, 30 per cent.
5. With streptococcus and pneumococcus in seven cases, with three deaths; mortality, 43 per cent.
6. In the three cases where the bacterium coli was the added germ, all three died.

An exact description of the culture methods and animal experiments is given in the original article. From the latter it would appear that the addition of the bacterium coli adds to the severity of the disease, but that the addition of the filtrate of cultures of this germ does not increase the power of diphtheria antitoxin. The authors come to the same conclusion, that the bacterium coli, though usually a harmless parasite in the human body, may, under certain conditions, become an element of danger. Its power may be relatively increased by the lowered resistance caused by the action of other bacteria, or its virulence may be increased by its association with other bacteria on the surface, and later on find an entrance and do damage.

Influence of the Nervous System on Infection

The *Rev. des Sci. Med.* (No. 97) abstracts from a paper in *Lo Sperimentale sez. biol.*, by Trambusti and Comba, on the influence of alterations of the nervous system on the localization and diminution of infectious processes. It is there said that after the eradication of the celiac ganglion, the intravenous injection of pathogenic microbes invariably results in localization in the kidney, *i. e.*, in the weakest organ, and in spite of the intense vaso-motor paralysis which is developed there. The absence of hepatic lesions, shows that the inferior celiac ganglion has not the important function of innervation with which it has been credited. The renal localization of infection is an unusual occurrence among animals.

THERAPEUTICS AND PHARMACOLOGY

Ethylenediamine-Cresol—An Antiseptic

This new substance is described as a colorless liquid, almost non-poisonous, especially valuable on account of its penetrative properties, and exceeding cresol in disinfecting power. It was tried by Dr. Schaefer (*Pharm. Ztg.*, XLI) in all sorts of ulcerative processes, and found to be particularly useful in the after-treatment of cavernous wounds; for instance, in suppurating glands, lupous affections, and in lupus of the extremities, its cicatrizant power was very pronounced. In comparison with iodoform, aluminum acetate, silver nitrate, etc., the results show that the ethylenediamine-cresol is at least equal to, and frequently superior to, these medicaments in skin-forming powers. In gonorrhea, eczema, and psoriasis it proved rather ineffective.

Orphol, or Betanaphtol-Bismuth

Dr. Goliner, of Erfurt, in the *Allg. Med. Central-Zeit.* (1896, No. 96), reports his experience with this remedy in tuberculous inflammations of the intestinal tract with diarrhea. In such cases, opium and tannin invariably fail. What is required in the diarrhea of consumptives is a reliable intestinal antiseptic that is also an astringent. Something is needed to lessen the bad effects of the micro-organisms and their products, by making the mucous membrane a bad culture medium for them, lessening the secretion, and reducing to a minimum their nutrient supply. The author claims that all this is accomplished with orphol. It is a light-brown powder with an agreeable odor and pleasant, aromatic taste. It contains 20 per cent. of betanaphtol and about 80 per cent. of bismuth oxide in chemical union. Among the cases given, he cites one of a patient 52 years old, suffering from phthisis, that was troubled with thin, watery stools, abdominal pains, and flatus. Opium did him no good. He was given orphol in 15-grain doses every two hours for several days, when his diarrhea was checked, the foul odor disappeared, his appetite returned, and his general appearance improved. Continuance of the remedy at such frequent intervals caused constipation to set in, but this was soon overcome by lessening the amount and frequency. The bowels then moved once a day and became of the consistency of thick gruel. The author explains the action of the drug by saying that it is decomposed in the bowel into naphtol and bismuth. The naphtol is antiseptic and the bismuth is astringent. A small amount of the naphtol appears in the urine.

New Compounds of Antipyrin

G. Patein and E. Dufau (*Jour. Soc. Chem. Indust.*, XV) describe two new compounds of antipyrin. *Antipyrin para-oxybenzoate* is obtained by mixing a concentrated alcoholic solution of 5.5 gme. of para-oxybenzoic acid with an aqueous solution of 8 gme. of antipyrin. An oily liquid separates and crystallizes after some time. The substance may be recrystallized from boiling water or alcohol. It melts between 78° and 82° C., is soluble in 130 parts of cold water, much more soluble in boiling water, very soluble in alcohol, and slightly soluble in ether. Ferric chloride gives the antipyrin reaction. *Antipyrin meta-oxybenzoate* is obtained in a similar way, but remains liquid under ordinary conditions. Both of these substances are formed by the union of a molecule of each of the constituents, without the elimination of water.

Argonin in Gonorrhea

This new casein salt of silver has recently been reported upon by Dr. J. W. Daniel, in the *Amer. Therapist.* He pronounces it superior to nitrate of silver in urethritis. After trial in twenty-six cases, he has found that it has no irritating effect on the mucous membrane, is not precipitated by chlorides, and remains undecomposed in the presence of albuminous substances. Under its use, urine scalding and inflammation quickly subside. A 5-per-cent. solution was used in uncomplicated cases, and an 8 to 10-per-cent. in complicated. For the first few days it is used with an ordinary urethral syringe, six to eight times a day, and later, in addition to this, deep injections are given twice a day with a long-nozzled syringe. In twenty complicated cases, the gonococci wholly disappeared in four to six days; but in six, complicated with stricture, etc., while the discharge ceased in six or seven days, and they appeared to be well, there was a recurrence when the injections were stopped too soon.

Euquinine—A Substitute for Quinine

Euquinine is obtained by the action of ethyl chlorocarbonate on quinine. It is a crystalline substance, slightly soluble in water, and easily so in alcohol, ether, or chloroform. It possesses basic properties, combining with acids to form crystallizable salts. It is said to differ from quinine in two important particulars: It is almost tasteless (which renders it specially eligible in infantile practice), and causes none of the dyspeptic disturbances occasioned by quinine; furthermore, the usual ringing in the ears after large doses is also considerably less pronounced than with the cinchona alkaloid.

As far as its therapeutic value is concerned, Dr. Von Noorden (*Sem. Méd.*, XVI) found that in the treatment of whooping-cough, hectic fever, pneumonia accompanied by retarded resolution, typhoid fever at the stage of greatest fluctuation in temperature, and also in neuralgias, 1 gme. (15 grn.) of quinine can be replaced to advantage by from 1.5 to 2 gme. (23 to 31 grn.) of euquinine.

Euquinine may be given to adults inclosed in cachets, and to children in milk, soup, or cacao. The tannate of euquinine is perfectly tasteless, while the hydrochlorate has a disagreeable taste, and therefore has no advantage over the ordinary quinine salts.

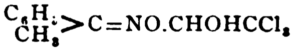
Cocaine

Dr. Roswell Park, in his address at the University of Buffalo on the "Introduction of Ether," had these good words to say for cocaine just before closing his remarks:

"Cocaine is now such a universally recognized local anesthetic that there is the best of reason for referring to it here—the more so because it affords another opportunity to do honor to a discoverer, who has rendered a most important service to not only our profession, but to the world in general. The principal active constituent of coca leaves was discovered about 1860 by Niemann, and called by him cocaine. It is an alkaloid which combines with various acids in the formation of salts. It has the quality of benumbing raw and mucous surfaces, for which purpose it was applied first in 1862 by Schroff, and in 1868 by Moreno. In 1880, Van Aurap hinted that this property might some day be utilized. Karl Koller logically concluded from what was known about it that this anesthetic property could be taken advantage of for work about the eye, and made a series of experiments upon the lower animals, by which he established its efficiency and made a brilliant discovery. He reported his experiments to the congress of German oculists, at Heidelberg, in 1884. News of this was transmitted with great rapidity, and within a few weeks the substance was used all over the world. Its use spread rapidly to other branches of surgery, and cocaine local anesthesia became quickly an accomplished fact. More time was required to point out its disagreeable possibilities, its toxic properties, and the like; but it now has an assured and most important place among anesthetic agents, and has been of the greatest use to probably 10 per cent. of the civilized world. To Koller is entirely due the credit of establishing its remarkable properties. Had he patented his discovery, he would have been vastly richer in pocket, though poorer in fame, than at present. He is now established in New York, where he enjoys a modest competency, but is by no means in receipt of the income which is properly his due from the world at large. To a man who has been the means of relieving so much pain as Karl Koller, no amount of pecuniary return is too great."

Chloral-Acetophenonoxim—A Hypnotic and Sedative

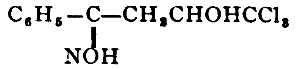
Chloral-acetophenonoxim has the composition



$$\begin{matrix}C_6H_5\\CH_3\end{matrix}\!>C{=}NO.CHOHCCl_3$$

It is recommended as a succedaneum for chloral hydrate and acetophenone (hypnone), the disagreeable by-effects of these being absent in the new preparation, and it is further said to be wellnigh a specific in the treatment of epilepsy, eclampsia, and tetanus. It is obtained by bringing together molecular proportions of chloral and acetophenonoxim at a low temperature, preferably in the presence of benzene. The product is in the form of colorless, hard prisms, melting at 81° C., easily soluble in alcohol or ether, and difficultly so in benzene and benzin. Acids and alkalies decompose it into its components. Definite clinical data are yet wanting.

The isomeric oxim previously described by Konigs and Wagstaffe, as well as by Wislicenus, and having the formula



$$C_6H_5-\underset{\displaystyle NOH}{\underset{|}{C}}-CH_2CHOHCCl_3$$

is said to have a quite different effect, physiologically, than the new compound.

Ichthyol

Dr. L. D. Bulkley, in the *Jour. Amer Med. Assoc.* (XXVII), has the following good words to say for this remedy:

Ichthyol has a power of reducing infiltrations, and in chronic conditions may be painted pure over the surface with much advantage. The writer has a number of times seen the greatest benefit result from painting pure ichthyol over joints enlarged by rheumatism and gout, and then applying one or two thicknesses of flannel, wrapped firmly on the part, forming an adherent dressing with the ichthyol. This may be removed and fresh ichthyol painted on daily, and wrapped with the same flannel; patients who have long suffered from these conditions have obtained more relief from this method of treatment than from any previously adopted.

In this connection may be mentioned another non-dermatologic use of ichthyol, although it has some connection with the troublesome skin conditions observed about the anus. This is the internal use of ichthyol, in piles. Taken in doses from 5 to 15 drops, in water or capsule, after each meal, it seldom fails in giving relief to the congested capillaries of the lower rectum and anus, if the condition is not too exaggerated; when, by long duration, the blood-vessels have become permanently dilated with intercellular exudation and some vascular new formation, and especially if a clot has formed in the mass, this remedy, like all others, has little effect. But in the milder and recurrent cases, where small tumors form, ichthyol, if freely used internally, and perhaps externally, will give a relief that is most gratifying, and many patients at once resort to it on every return of this trouble.

The somewhat disagreeable odor and the staining of ichthyol have led to the introduction of several other substances intended to take its place. One of these is thiol, a sort of artificial ichthyol, less unpleasant in smell and producing less permanent stains on linen. From what Dr. Bulkley has seen of its use in the hospital, he does not think it fulfills the requirements as well as the natural drug.

The stains caused by ichthyol are easily removed by simple washing with soap and water.

Pyoktanin in Phlyctenular Conjunctivitis

H. B. Young, in the *Jour. Amer. Med. Assoc.* (XXVII), states that about two years ago, after an unsuccessful attempt to treat a case he had diagnosed as phlyctenular conjunctivitis, by the classical method, viz., Pagenstecher's ointment, calomel dust, and mydriatics locally, combined with alterative and tonic medication internally, pyoktanin in 1-1000 aqueous solution locally was accidentally suggested. The case improved rapidly under it, and was soon well. A month later the patient returned with a fresh efflorescence. Again, were the Pagenstecher's ointment and calomel dust distinctly irritating and the pyoktanin promptly effective. Following this at irregular intervals the efflorescence recurred and was promptly subdued by the pyoktanin. In the meantime a younger sister of this patient showed the same conditions, had the same treatment with the same result.

From this time all cases of conjunctivitis lymphatica were treated in this way, and it was noticed that those were soonest benefited in which the efflorescence was marked by lachrymation and congestion of the palpebral conjunctiva, while the elevations at the limbus showed irregular outlines and little dispositon to surface softening.

Why there should be this difference, or why the pyoktanin should, in any case of this character, be as effective as the time-honored mercurials the writer does not know.

The pyoktanin was dissolved in water that had been boiled thoroughly. A fresh solution was prepared when any change was noted in the color.

Peronin—A Substitute for Morphine

The name " Peronin " has been given to a salt of the formula

$$C_{24}H_{25}NO_3.HCl= \\ C_{17}H_{18}NO_2O.C_6H_5.CH_2.HCl$$

It is in the form of a voluminous, white powder, easily soluble in water, and insoluble in alcohol, chloroform, or ether. It is intended as a substitute for morphine.

According to the investigations made thus far by Drs. Von Mering, Schroeder, and Nockus, peronin acts somewhat weaker than morphine, but, on the other hand, exhibits the unpleasant by-effects of the latter in far less degree. Its use is particularly recommended in the troublesome coughs of phthisis and bronchial catarrh ; and in asthmatic affections, as well as in rheumatic and neuralgic pains, it also exercises an excellent, calmative effect.

The dose of peronin is about two or three times greater than that of morphine ; a single dose would therefore be from 0.02 to 0.04 gme. (⅓ to ⅔ grn.), the maximum single dose 0.06 gme. (1 grn.), and the maximum daily dose 0.2 gme. (3 grn.).

Since peronin is almost as bitter as morphine and codeine, it is recommended that it be given in pills, or dissolved in syrup, or in sweetened water.

Several good formulas for its administration are as follows:

1.—Peronin ....0.3 gme. (5 grn.)
Powd. Extract Licorice,
Powd. Licorice Root..Of each sufficient
Make into 30 pills.
Two to four pills at night.

2.—Peronin ....0.5 gme. (7½ grn.)
Distilled Water.....100 gme. (3⅜ fl. oz.)
Teaspoonful at night.

3.—Peronin ....0.1 gme. (1½ grn.)
Distilled Water.......150 gme. (5 fl. oz.)

4.—Peronin ....0.3 gme. (5 grn.)
Alcohol ....5 gme. (100 min.)
Distilled Water.....50 gme. (13 fl. dr.)
Syrup ....100 gme. (2½ fl. oz.)
Teaspoonful three times daily.

REVIEWS

Autoscopy of the Larynx and the Trachea. (Direct Examination without Mirror.)—By Alfred Kirstein, M.D., Berlin. Authorized translation (altered, enlarged, and revised by the author) by Max Thorner, A.M., M.D., Cincinnati, O. Pages XI + 68, with twelve illustrations. Philadelphia: The F. A. Davis Company. Price 75 cents.

This new and novel method of examination of the larynx cannot fail to attract the attention of all laryngologists. The advantages of *direct examination* of the larynx will be readily recognized, and this method, which does away with the inverted image—in laryngeal surgery, especially—will be tried, and its practicability, no doubt, established in the near future. The throat specialist owes much to the translator of this interesting little book, in which is so carefully portrayed by illustration and description, the technique, position of patient and apparatus used.

Typographically, the book is in keeping with the high standard of the publishers.

The Surgical Peculiarities of the American Negro: A Statistical Inquiry Based upon Records of the Charity Hospital of New Orleans, La., Decennium, 1884-1894.—By Rudolph Matas, M.D. Reprinted from the Transactions of the American Surgical Association,' Vol. XIV, 1896. Pamphlet form, bound in paper, containing 130 pages, including a Bibliography.

The author certainly deserves credit for the faithful and comprehensive manner with which he has dealt with this subject. His treatise presents the more salient anthropological, anatomical, physiological, and pathological data that are of interest to the surgeon in the comparative study of the negro race in the United States. The opening pages of the volume deal with historical and other preliminary considerations. Each section is treated in a brief, attractive, and concise manner; besides, the whole text is copiously strewn with tables of the various conditions discussed, thereby making the comparisons which the writer makes between the various races, more explicit, and at the same time more interesting.

After considering the historical data of the American negro, the following are taken up in sectional form: The influence of crossing—the mulatto; the environment; anatomical characteristics of the negro; physiological characteristics; pathological peculiarities; generalizations; surgical peculiarities defined; the Charity Hospital of New Orleans; the pyogenic infections; smallpox and vaccinia; the streptococcal infections; the septic infections; tuberculosis; syphilis; tetanus; surgical diseases attributable to intestinal, and especially colonic affections; suppurative hepatitis, or abscess of the liver; appendicitis; peritonitis; pulmonary and pleural infections; endocardial infections of surgical interest; cerebral abscess; hydrocephalus; tumor-formation in the white and colored races compared; benign neoplasms; fibroids and fibromyoma; keloids; elephantiasis and molluscum fibrosum; angioma; malignant neoplasms; the venereal affections; chancroid; other familiar types of genito-urinary disease: Hydrocele, prostatic hypertrophy, urinary calculus; fractures, rickets, and dislocations; surgical diseases of the circulatory system; hemorrhoids and varicose veins; hernia; congenital deformities; diseases of the skin racially considered; diseases of the eye racially considered; diseases of the ear, nose, and throat racially considered; diseases reputed to prevail exclusively in the negro race.

The student who is interested in the comparative study of the negro race in its medical relations, will find considerable to interest him in Dr. Matas' monograph.

Transactions of the Berks County (Pa.) Medical Society for the Year Ending December 31, 1896.

This volume, upward of 160 pages, bound in cloth, contains various interesting articles on timely topics, of which we would especially point out a paper on "Causes and Prevention of Tuberculosis," by Dr. M. L. Bertolette, read before the Society, May 12, 1896. An interesting case of cephalocele is also reported at length by Dr. W. Murray Weidman, the patient, a female child, aged 6 months, having been operated upon with a fatal result.

The book contains other articles well worth the time spent in their perusal.

Treatise on Spermatorrhea, Impotence, and Sterility.—By William Harvey King, M.D. Pages 178. New York: A. L. Chatterton & Co. Price, cloth, $1.50.

The author, in his preface, states having had an extended experience in the particular line of diseases treated, and this experience has been embodied in the pages of the book. Besides a comprehensive résumé of the electrical treatment, he has given a very complete description of the hygienic management, as well as the medical; the latter, however, is based principally upon homeopathy, although he touches upon the "old-school" methods of medication. The mechanical and hydropathic treatments are described in detail, and thoroughly. The majority of works upon this subject have usually been treated from a surgical standpoint. This book deals with these diseased conditions from the physician's standpoint, and not the surgeon's. The author believes that the diseases are essentially, with few exceptions, of a neurological type, and therefore come under the physician's more than the surgeon's care.

The book is well arranged, well printed, and is both interesting and instructive. Our only objection to it is its almost exclusive medical treatment; we mean that which the author has indexed as "Special Therapeutics."

The Treatment of Pelvic Diseases by Means of the Sweating Apparatus of Dehio

H. Thomsen (*St. Petersburgh Med. Woch.*, XXI, No. 23) has obtained good results by the use of the Dehio "sweat-apparatus" in sub-acute and chronic inflammations of the adnexa, and in pelvic peritonitis where pain and hyper-sensitiveness are the most pronounced symptoms. He used the procedure, as a rule, for an hour daily. In exudations in the pelvis, in metritis, endometritis, and in atrophy of the uterus following lactation, the treatment gave good results. It is contra-indicated in cases where heart disease, or endarteritis, was present.

CORRESPONDENCE

An Appalling Situation

To the Editor of the A. M.-S. BULLETIN :

Your journal and its contents, together with its just and humane editorials, I cordially indorse, and thank you for your views as expressed ; and had you gone still further, and stated that fully 75 per cent. of the general practitioners in this city to-day were on the very verge of starvation from these hospital and dispensary drag-nets, together with the impossibility of collecting their just debts, you would then have written nothing but the truth.

Quite lately I was in consultation with several men whose names are recognized as well-known specialists, and they informed me *that they could scarcely get bread to eat*, owing to the fact that our public institutions never refuse to treat anyone who may apply for treatment, either surgically or medically, and I am convinced that the general practitioner to-day earns and collects much less money than the average artisan, and is treated with infinitely less respect by the general public. Could you, Mr. Editor, visit the homes of many hundreds of medical men in this city, you would see little else to gaze upon but genteel poverty and an empty larder. And yet our hospitals are overladen with invested funds, and offer every inducement to the general public to treat them with every consideration without fee or reward. C. C. C.

New York.

The Practice of Optometry in the State of New York

To the Editor of the A. M.-S. BULLETIN :

A bill has been introduced in the legislature, known as Assembly Bill No. 459, entitled "An Act to Regulate the Practice of Optometry in the State of New York," which decrees that the Regents shall appoint a Board of Examiners to examine any person who desires to treat any condition of the eyes requiring glasses, and grant a certificate of proficiency, which must be hung in a conspicuous place in the office of the recipient. The opticians who call themselves refracting opticians are behind this measure, and contend that the refraction of the eye is no part of medicine, and that physicians have no right to take unto themselves the exclusive privilege of this department.

Every physician must be fully aware of the evil consequences that will, of necessity, follow the passage of a measure of this kind, as the examination requires simply a knowledge of optics, and is one that any person can prepare himself for in a very short time.

The sponsors of this measure claim that they need protection; that they have been fitting glasses for a long time, and that they have a right to continue to do so. In answer, we say that the time was, and not so long ago, when the pulling of teeth, blood-letting, and many of the present functions of the physician, or those having a medical education, were in the hands of the barbers; but increasing education has demonstrated that, in order to protect the public, medical privileges, of which the fitting of glasses is one, can be safely intrusted only to those who, by careful medical training, are capable of discriminating between health and disease.

The present standard of medical education is higher in the State of New York than anywhere in the United States, and we urge the members of the profession to keep it so. If every physician who reads this statement will write to his or her representatives in the Senate and Assembly, protesting against the passage of Assembly Bill No. 459 in any form which obviates a medical education, as something which would be extremely dangerous to the public, the defeat of this measure is assured.

The Committee on Legislation will be happy to furnish names of representatives, or any desired information.

D. B. ST. JOHN ROOSA,
EGBERT H. GRANDIN,
CHARLES E. NAMMACK,
WILLIAM R. PRYOR,
FRANK VAN FLEET, *Chairman.*

New York.

The Carrying of Contagion by Means of Books

To what extent may disease be conveyed by means of books ? The answer to this question has been in a great measure made by the recent bacteriological investigations of Cazal and Catrin, whose results are published in the *Annales de l'Inst. Pasteur* (IX, No. 12). A book taken at random from the hospital library was found to contain, besides numerous saprophytes, pathogenic fungi, streptococci, and the bacillus subtilis. A new book from the printers, while not sterile, contained only harmless germs.

The experimenters then infected some books with known micro-organisms, and after some days used strips of paper from these books to inoculate culture media. The streptococcus, pneumococcus, and diphtheria bacillus were found to retain their power of infection, while typhoid and tubercle bacilli gave negative results.

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EDITOR'S NOTES

The statement has been going the rounds of the medical press that a warm solution of tartaric acid is a most efficient means of cleaning blood-stains from towels, aprons, etc., soap not being needed. Acetic acid solutions have long been in use for this purpose. Either acid, probably, would answer equally well.

The Laryngoscope, published in St. Louis, has been selected as the official organ, for the year 1897, of the Laryngological Society of the New York Academy of Medicine. This selection, and the great probability of the same journal being chosen by other laryngological, rhinological, and otological societies as their official organ, would indicate that *The Laryngoscope* has become what its proprietors stated they intended to make it, i. e., the American journal of record for the specialties represented.

A bill has been introduced into tne Arkansas Legislature, amending the act relative to county boards of medical examiners. Persons addicted to drunkenness, or to the intemperate use of opium, morphine, or other similar narcotic, will not be licensed. We have no doubt the law, if passed, will prove beneficial, both to the physician and his patient. No man can think properly while under the influence of a narcotic, and he thereby jeopardizes his patient's life, as well as his own reputation.

The Medical Society of Berne, Switzerland, is trying to persuade the public press to cease giving notices of suicides, in order to check epidemics of this kind. Mental suggestion causes weak-minded people, and those that are in trouble of any kind, to think of self-destruction, when otherwise it might not occur to them. Such an epidemic followed R. G. Ingersoll's letter in the N. Y. *World* of a few months ago, wherein he commended suicide under certain conditions. The more frequent the suggestion, and the more it is before the mind, the more seriously it is taken to heart and acted upon.

The St. Louis Medical Society of Missouri, at its meeting of Feb. 6, adopted the plan of having all the papers presented bear upon one common leading subject, "The Diagnosis of Disease by Examination of the Blood." As there were seven papers in the symposium, they necessarily must all have been pithy and short. This is a plan that would be a blessing if all the medical societies would adopt it. The amount of time wasted in listening to reports of cases without special interest is fearful. Make the society meetings educational. Call out the latest facts and principles of medical science, and progress will be greater.

The public press report that at a recent trial in this country, a so-called medical expert was asked whether he was familiar with books of certain titles that were read to him. He said he was, and pronounced them good authorities on the subjects named. The office clerk of the examining lawyer was next asked to take the stand, which he did, and swore that all the titles were fictitious, having been concocted by him before leaving his office. Any medical man that would be guilty of such a crime, should have no mercy shown him by either the judge or the profession at large. He is a disgrace to our calling. Such as he bring odium on honest men who act as experts. Jurors doubt them all.

The San Francisco (Cal.) Board of Health are after Chinese laundries. These places are claimed to be hotbeds of disease germs. Moreover, a large number of places, run ostensibly as laundries by Chinamen, are nothing more or less than opium dens. It is also claimed that the inmates sleep on the washed clothing of their patrons. There is no doubt that the San Francisco Board of Health is quite right in this action they have taken. Another practice, which, in our opinion, should be prohibited, is the spraying of clothing by means of the mouth, as by this means the clothes may be contaminated. Frequent crusades of this sort, doubtless, would tend to remove a large number of the disease-breeding foci.

An animated discussion as to whether cremation or burial should be adopted in the disposal of the dead, has been recently indulged in, by one of our dailies. One writer claims that burial and sepulture are not antagonistic to sanitation, and that cremation defiles the air. An argument strongly in favor of the burial of the dead, lies in the well-known fact that the health of Paris has never suffered by reason of its catacombs. The city of Brooklyn, possessing numerous burial grounds, is one of the healthiest communities that one can live in. On the other hand, the gaseous fumes of a London crematory have been known to be prejudicial to the health of those living near by. This problem offers many points of interest, both to the layman and the scientist.

Bacteriology has proven beyond doubt the danger of propagating disease by contaminated money. Germs of all sorts have been found in the circulating medium. Most common are the molds. Next to these in point of numbers is the group of bacteria called cocci. From this it can be seen how easily contagion may spread. It is true that, as a rule, these germs are harmless unless they enter the circulation; but still, there are many cuts and abrasions to be found on the fingers of the general public, and these form excellent beds for the planting of bacteria. Again, the lips in cold weather are frequently cracked, or are the seat of small abrasions. Hence, the practice of putting coins in the mouth cannot be too strongly condemned. Enough germs have been found on old notes to show the extremely dangerous nature of dirty money, and, consequently, it is no wonder that the Bank of England burns all its paper currency as soon as it returns.

The Council of an English Medical Society was recently called upon to settle a most interesting case: A member of the society was called to see and prescribe for the maid-servant of a patient. The employer, upon learning the girl's condition, dismissed her. She commenced an action for slander against the physician, who, on the advice of the council of the society, settled the matter by paying her a solatium, the society bearing the costs of the case. The solicitors to the council advised that a doctor, paid by his employer to attend upon a servant of the employer (there being no objections on the part of the servant to the doctor's services), might divulge to his employer the result of his attendance, that being a privileged communication; but if the report is made in the presence of or to any other person than the employer, as was the case in the above instance, the report is not privileged, and the matter may become actionable. The council expressed the opinion that a medical man, when consulted by an employer in reference to a servant's health, should obtain the written consent of the servant before prescribing, or divulging the result of his examination to the employer, in such cases where the servant might be likely to object to his doing so.

A current number of one of our contemporaries deals with the subject of self-destruction. Reference is made to the methods which appear to be popular. The author of the contribution points out that the choice falls by preference on a few methods. The following are the principal ones: Drowning, hanging, firearms, wounds, poisoning, falls from a height, and asphyxia. It is stated that suicide by other means, such as starvation, crushing, bruising, purposely induced diseases by infection, striking the head, crucifixion, falling into the fire, splitting the skull with dynamite, swallowing boiling water or oil, are exceptional, and scarcely ever registered in statistics. In the choice of the means of death, man is generally guided by two motives—the certainty of the event, and the absence or shortness of suffering. When suicide is accomplished by very painful means, or at the cost of prolonged agony, usually it is the act of a mind disordered by fanaticism, by insanity, or by morbid excitement. The suicides very often choose their means of self-destruction according to their professions or surroundings. Among the different ways of self-destruction, hanging seems to be the most common. Next comes drowning; then firearms. Falling from a height is preferred to asphyxiation from the fumes of burning charcoal, and poison is the method most popular after this.

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The bubonic plague at Bombay has, according to official returns, claimed two thousand and twenty-eight victims out of two thousand eight hundred and fifty cases, up to January. It is now said that ants carry the disease.

NEWS

New Hampshire will adopt the bill for medical registration after Sept. 1, 1897.

Columbus, O., is trying to secure the 1898 meeting of the American Medical Association.

The New York city authorities are contemplating making a complete reform in the ambulance system.

Dr. J. S. Wintermute, of Tacoma, Wash., was shot and killed Nov. 11 by a patient whom he was treating for melancholia.

Dr. S. G. Courtney Pinckney, of Atlanta, Ga., has been appointed Professor of Nervous Diseases in the Southern Medical College.

Kalamazoo, Mich., has a lady M. D., who is an inmate of the nunnery, and practices regularly in the convent, both as physician and surgeon.

The Prussian Government has voted to the Ministry of Public Instruction fifty thousand marks for investigations with the Röntgen rays.

The night medical staff in a densely inhabited quarter of Paris have all resigned on account of the remuneration being considered inadequate.

The Alpha Chapter of the Phi Sigma Psi Medical Fraternity was organized in Columbus, O., last month. The membership is to be very exclusive.

The French Government has made Dr. Behring a Knight of the Legion of Honor, and the German Emperor has decorated Dr. Roux with the Order of Merit.

Washington, D. C., is just now reported as having its annual experience with influenza, or la grippe, there being a very large number of cases in all sections.

A pathological museum is being added to the medical building of McGill University, and it is expected that the work will be completed during February.

There is an acre in New York City, bounded by Cherry, Hamilton, Catharine and Market streets, where the death record is appalling. Last year there were 91 funerals within its confines. Since 1880 the number who have died in this tenement block has never been less than 87, and sometimes reaches 93.

Dr. Koch has been summoned from South Africa to head a commission appointed by the German Government to go to Bombay and investigate the plague.

St. Louis and other cities have followed New York in declaring pulmonary tuberculosis infectious, and ordering physicians to report all cases coming under their care.

The physicians of New London, Conn., have petitioned the Mayor to make a medical man the local health officer. At present a member of the police force occupies this position.

The Mayor of Baltimore, Md., has just appointed Dr. Bubet as Sanitary Inspector. Hereafter this precedent, of having physicians hold this position, will be maintained, if possible.

The will of the late Dr. Pancoast bequeaths to the Medico-Chirurgical College of Philadelphia his museum of anatomy and surgery, and $600 per year with which to maintain it.

The Finance Committee of the Aldermanic Council in Philadelphia, Pa., postponed consideration of the $300,000 experimental filtration ordinance, introduced by Chairman Leeds.

The trustees of the New York Polyclinic Medical School and Hospital have decided to begin work immediately and rebuild on the site of their former building, Nos. 214 to 218 Thirty-fourth street.

The regents of the Michigan University Medical Department have rejected the petition presented last month by Dr. MacLachlan requesting the removal of the medical department to Detroit.

A number of prominent Iowa physicians met in Des Moines last month for the purpose of framing a law to present to the General Assembly, governing the admission to practice of doctors in Iowa.

The Kansas State Medical Society and the State Board of Health have prepared a bill to establish a State Board of Medical Examiners to restrict the practice of medicine to properly educated men.

The doctors of Yarmouth, Eng., in charge of the benefit associations, lately made a strike for higher pay. The associations combined and started an office of their own, thus beating the doctors.

The San Francisco (Cal.) Board of Health held a conference on Jan. 12, 1897, with representatives of boards in the various bay counties, in relation to legislation looking to give health boards greater power.

A trained nurse in Chicago has recently established herself as a "home nurse." She attends the sick on the same plan that the physicians do, making daily calls upon her patients and charging a small fee.

The New York City Board of Health has recently condemned fifty tenements, several of which are to be demolished, owing to their menace to health. The owners will receive just compensation from the city.

The Anti-Vivisection Society is at odds with the Boston medical schools. They claim that a large number of animals are constantly being vivisected at Harvard and at the Boston University Medical School.

The fumigating plant at Camp Low, Sandy Hook, will be transferred to Ellis Island. When the transfer is completed, the clothes of every immigrant who spends the night at Ellis Island will be thoroughly fumigated.

The Massachusetts Institution Commissioner's experts have just completed their examination of the diet at the Marcella Street Home. They say: "The inmates' food was the worst we have ever seen in any institution."

At a meeting of the Anti-Compulsory Vaccination League of Pennsylvania, a petition signed by over 1000 physicians, vigorously condemning the compulsory vaccination law, was adopted, and will be circulated throughout the State.

The January number of the *Johns Hopkins Hospital Bulletin* contains a beautiful frontispiece, representing Thorwaldsen's statue of Christ that was lately unveiled in the hospital and presented by William Wallace Spence, of Baltimore.

The Ramsey County (Minn.) Medical Association, at its last monthly meeting, passed resolutions deploring the fact that Dr. Hewitt had not been reappointed on the State Board of Health, and requested the Governor to reinstate him.

A number of Baltimore physicians, dentists, and druggists have taken steps to either lessen the number of dispensaries, or to compel them to limit themselves in the number of cases they treat, and to those to whom they give free treatment.

The St. Louis Board of Health is about to inaugurate a new system of fumigation. They will hereafter employ formaldehyd instead of chlorine, since it is less irritating and less apt to act on metals, at the same time being free from bad odor.

The last report of the State Board of Medical Examiners of New York showed that 805 candidates had appeared. Of these, 177, or 24.2 per cent., were rejected, and 655 were licensed. Hereafter, the examinations will be even more stringent.

The fourth annual meeting of the Associated Health Authorities of Pennsylvania was opened on Jan. 25 by Governor Hastings, its president. The registration of midwives was urged by A. C. Wallace, secretary of the McKeesport Board of Health.

The American Anti-Vivisection Society held its annual meeting on Jan. 29, 1897. The president, Dr. Woods, recommended that they change their method of combating vivisection, and search out, under capable medical direction, all varieties of cruel work by vivisectionists.

The question of precedence between the State and Federal quarantine officers of San Francisco, Cal., has caused a clash between the State and the Nation. The Chamber of Commerce, and other organizations interested in the city's trade, will probably take the matter to the Legislature.

The New York State Medical Society held its annual dinner on Jan. 28. The Committee of Arrangements made the event a memorable one in the history of the State Medical Society. About 160 persons were present. Toasts on timely topics were given by physicians and others.

Active and aggressive war against the bacteria of disease is planned by Dr. C. C. Abbot, new bacteriologist to the Philadelphia Board of Health. The water and milk supplies are to be thoroughly investigated, and the doctor has solicited the co-operation of the city's physician in his labors.

A bill has been introduced in the Illinois Legislature, "providing that no physician or surgeon shall, when acting as a witness in a case wherein his patient is a party, be compelled to disclose any information which may be acquired in advising or attending such patient in a professional character."

The New York Academy of Medicine celebrated its semi-centennial in Carnegie Music Hall on Jan. 29. The attendance of the President of the nation at this celebration is without precedent. Bishop Potter delivered the invocation. Dr. Bryant welcomed the audience, and introduced Drs. S. S. Purple and Lewis A. Sayre, two of the fourteen survivors of the 184 founders of the Academy. Dr. A. Jacobi was the orator of the evening. Mr. Cleveland, after his speech, was taken to the academy building, where he held a reception.

OBITUARY

Henry Hartshorne, A. M., M. D., LL. D., in Tokio, Japan, on Feb. 10, aged 74 years. Henry Hartshorne was born in Philadelphia March 16, 1823, and was the second son of Dr. Joseph Hartshorne. He was graduated from Haverford College in 1839, and from the University of Pennsylvania as a doctor of medicine in 1845. In 1853 he was made Professor of the Institute of Medicine in the Philadelphia College of Medicine, and in 1855, was chosen one of the consulting physicians and lecturers on clinical medicine in the Philadelphia Hospital. During the years 1858-9 he traveled in Europe, visited Egypt, and ascended the Nile as far as Thebes. After his return to the United States, in 1859, he was elected Professor of the Practice of Medicine in the University of Pennsylvania. In 1862 he became Professor of Anatomy, Physiology, Natural History and Hygiene in the Central High School, resigning that Chair in 1867. He also held, in 1866, the Chair of Hygiene in the University of Pennsylvania. In 1867 he was made Professor of Organic Science and Philosophy in Haverford College, and also held at different times professorships in the Pennsylvania College of Dental Surgery, Woman's Medical College of Pennsylvania, and in addition was attending and consulting physician of the Woman's Hospital of Philadelphia. "Water vs. Hydropathy," his graduating thesis, was quickly followed by the publication of "Glycerin and Its Uses," "Facts and Conclusions Upon Cholera," "Memoranda Medica," "Guide to the Medicine Chest and Family Adviser," and an essay on the "Arterial Circulation," which was given a prize by the American Medical Association in 1856. Then followed "Essentials of the Principles and Practice of Medicine," and in 1869 the first edition of "A Conspectus of the Medical Sciences" was issued. In addition to his contributions to the *American Journal of the Medical Sciences,* Dr. Hartshorne also wrote occasionally for the *American Naturalist.* In 1872-73 he contributed a number of important articles to Johnson's "New Illustrated Cyclopedia." As a literary writer his work included European correspondence, poetry, and romance. He spent much of his late years as a missionary in Japan, and in travel.

PUBLISHERS' DEPARTMENT

IMPERIAL GRANUM

The following is one of a great many similar letters received by Messrs. John Carle & Sons, of New York, laudatory of their popular food:

> "Sirs—During the middle of November I had an attack of pneumonia with very great difficulty in digesting my food; on trial of the various foods of which I had an abundance of samples, I found none so palatable and easily digested as Imperial Granum. Truly yours,
> "—— ——."

KINSEL'S TASTELESS COD-LIVER OIL COMPOUND

A physician of South Weymouth, Mass., writing to the G. F. Harvey Co., of Saratoga Springs, N. Y., relates his experience with this cod-liver oil preparation. He prescribed it in the case of a young woman, who developed marked pulmonary symptoms following an attack of influenza. Microscopic examination of the sputum revealed the presence of tubercle bacilli. There was a great deal of pain in the chest and a very harassing cough. With loss of appetite, there was very rapid emaciation. Nervous symptoms were so marked that the patient had many hysterical convulsions. Other preparations of oil had been tried, but could not be continued, owing to the disgust which the oil caused. Kinsel's Oil was well borne by the stomach, and the free oil was so successfully disguised that the patient did not know she was taking cod-liver oil. From the time she commenced to take it, she improved in every way. Her strength gained; appetite improved; cough abated; nervous symptoms disappeared; sleep returned. Her weight, which had fallen from 125 lbs. to about 90 lbs, commenced to gain so that when sent to Southern California, four months after beginning with Kinsel's Oil, she weighed 114 lbs. At the latest account, she weighed 129 lbs., and had improved in every respect.

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EDITORIAL

A MEDICAL PARADOX

HAS the reader ever tried to think out a reliable test by which to tell whether or not medical science is really benefiting the race? Has he ever turned toward vital statistics for aid in solving such a problem? If so, then he has encountered one of the most curious of curious paradoxes. The general impression among laymen, and, we are sorry to say, quite frequently shared in by medical men, is that along with medical progress must go a diminution in the death-rate of the world. That such an inference is false is easily proven, yet the drawing of this very inference causes serious and not altogether flattering conclusions to be reached regarding the utility of modern medicine. A little more careful thought shows that the very reverse of this popular fallacy must be true. If medical science has for the past half century been really saving life, its best way to prove the fact conclusively is to show that it has increased the number of deaths. The statement of this startling fact may perhaps cause a skeptical smile to appear on the faces of those who have not carefully considered the matter. A little attention, however, will soon convince them of its absolute certainty. If medical men are really doing their duty in the world by saving the lives of their patients, then are they increasing the total death-rate instead of diminishing it. To allow the death-rate to sink, except for a brief period, would be to demonstrate our incompetence as medical men and the utter uselessness of medical science to the world. As long as we go on conquering disease, so long must we continue increasing the number of victims for the king of terrors, other things being equal.

All men must die. If we could be made immortal by medical science, then the death-rate would diminish in the ratio of our skill. As all must die, then it is evident that no conceivable victory of ours over disease can in the least lessen the number of deaths. If x represents the total number of people alive, then x must also represent the total number that must die. Nothing that we can ever hope to do in the way of curing the sick can ever make the number of deaths less than x. If, however, we gain and use the power of prolonging human life, then we do make more children reach manhood and womanhood. To lengthen the lives of children, who without our skill would die as children, is to increase the number of adults, and thereby the number of possible marriages. This necessarily increases the possible number of births, thereby augmenting the population. As all must die, an increased population means an increased death-rate. By prolonging life, and thereby augmenting the number of births, we increase the population from x to $x + y$. But, if the number of people alive is $x + y$, the number that must die is also $x + y$.

With the advancement of medical science, and its consequently increased saving of life, there is a pushing forward of the time of death—nothing more. He who would have died in infancy is spared to boyhood, and he who, but for increased skill and knowledge, would have died in boyhood, is spared to manhood. The young man who, without scientific care, would have died as such, is carried to middle life or old age. Thus it is all along the line. The greater the triumphs of medical science, the fewer the deaths in infancy or childhood, and the more the deaths in adult life or old age. A perfected medical science will carry all to old age and greatly multiply the deaths of that period. It will not only increase the number of deaths in old age by the number of children and adults spared till then, but it will also, by increasing the population through extra births, augment the total death-rate to a corresponding extent. It follows from this, that if medical treatment should become bungling and unscientific, that the death-rate would soon become less, because fewer children would live to the marrying age, fewer births would occur, and fewer people would be on the earth to die.

It is interesting to know, in this connection, that the population of the civilized world is increasing, and, naturally, with it the number of deaths.

As long ago as 1879 the Registrar-General of England had discovered that "it is a fact, that while mortality in early life has been very notably diminished, the mortality of persons in middle or advanced life has been steadily rising for a long period of years." Since that time this same rise has been going on in the mortality of advanced life, and the same diminution in that of early life. Could anything more convincing be produced in evidence of the triumphs of modern methods of sanitation and treatment? Is this not a most gratifying and flattering state of affairs for medical men to contemplate? When challenged for their credentials as ministers of mercy to the race, they can find them here, and can point with unfeigned pride to so glorious a record. Ever since the advent of the scientific method in modern medicine, this condition has been growing. The death-rate among children has been steadily on the decline, and that among those of advanced life on the increase. We have been pushing the time of death farther and farther along the road toward the gateway which President Cleveland has so aptly called the "old-age exit."

How has all this been brought about? To whom are medical men indebted for the knowledge that enables them to do such work? From what source or sources was the inspiration drawn? Who gave them the weapons by which they have been able to so successfully beat back death? They have used sanitation, medication, and alimentation in ways and methods unknown to their fathers. The latter tried to use these same weapons; but their methods were so bungling, and their ideas so crude, that their results were worthless. In therapeutics they had empirically acquired a multitude of remedies identical with our own, but their way of using them gave results that to-day would be deemed wholly unsatisfactory. Their sanitary measures were grotesque and nonsensical. Loathsome and foul-smelling articles, with magic charms, prayers, incantations, and crosses constituted the extent of their knowledge and practice. The change from their methods to ours is almost wholly traceable to the rational conclusions drawn from the experiments of physiologists and bacteriologists.

THE LINKED PURPOSE OF SCIENCE

DURING the last half century, by virtue of improved sanitary conditions and improved surgical and therapeutic measures, almost all of the hundreds of millions of civilized and semi-civilized human beings have had their lives extended, been saved pain, escaped disease, or had their comfort and happiness increased by the efforts of medical men. Without physiology and bacteriology they could have done nothing of the kind. Indeed, we do not hesitate going farther and saying that without these two departments of science modern civilization would have been impossible. Inventions and discoveries that seem to be wholly disconnected, if traced back in the order of their development, are found to be their lineal products. That this is not generally recognized is due to a fact that few seem to know. Nature's great benefits to us are the result of continuous cross-fertilization between science and science, like that between varieties of the same species among plants. To trace these successive pollinations to their sources is usually difficult and often impossible. To know the final outcome of the blending is, generally, equally difficult. As a consequence scientific men are accosted on every hand with an incessant "*Cui bono?*" There is an old saying that children and fools should not see half-done work. How came we to have such a saying? Because these two classes of people are narrow reasoners, that cannot see any good in work that is incomplete. Its utility is not obvious to them. For the same reason they should not be permitted to see work the benefits of which are so remote as to transcend their narrow mental grasp. The world contains a multitude of full-grown men and women whose minds, as related to science, have just such a puny compass as children and fools in ordinary matters. In the half-done work of science, and in the remotely connected parts of its work, this saying is particularly apt. Some of the tasks of science will require centuries to complete. Some of its connections, while as indissolubly linked in a fixed whole as are the receivers and transmitters of remote stations in a telephonic system, yet appear, in a somewhat similar manner, as if disconnected. As a result of this, the "What good is it?" query begins as a contemptuous sneer in physics, gradually rises to a roar in bacteriology, and ends off as a hysterical scream in physiology.

When a half-witted man, or a dull and stupid child, asks a farmer to justify his wastefulness of labor and property in plowing, harrowing, and sowing in spring, when he cannot possibly at that time secure a crop, the same thing is done as when the intelligent business man or woman asks the man of science to justify his conduct in making experiments that cannot immediately be coined into cash. The farmer's wheat is left to rot and waste, just as the savant's property is sacrificed in his unremunerative experiments. Does it pay? Who shall answer this? The child and the fool will say "No!" Shall they decide for the farmer? Who shall tell what pays and what does not pay in science? Surely no one would be so insane as to make people, who are wholly ignorant of a particular type of investment, and even ignorant of the value of its emoluments, the judges of such investments. The only proper judge of any investment is the man skilled in that kind of investment. For anyone else to interfere is a piece of impertinence that deserves only rebuke. When Professor Crookes began his experiments on radiant matter, multitudes wondered what good such investigations were. When he gave us that scientific toy, the radiometer, people still failed to see the good in it. When he finally succeeded in supplying the world with Crookes' tubes, there was still the wonder left of "What good is it?" When Professor Röntgen showed that these tubes emitted a form of light that passes through solid organic substances, and thereby enables us to photograph the human skeleton, and do other remarkable things that aid the diagnostician, then, and not till then, was the fool-cry stifled. Who knew or could foresee any such use for the fluorescing substances that Edison took hold of and made into the fluoroscope? Who can surmise the possible great uses of the most insignificant discovery, or in what branch of science it will become an absolute necessity for the future advancement of that branch?

When Unverdorben discovered crystalline, and when Runge found the same substance and named it cyanol, who could foresee how profound a mark on modern civilization it was about to make? We venture to assume that there did not arise before their eyes a modern department store, with its myriad glowing colors of brilliant silks, worsteds, ribbons, and artificial flowers so lavishly displayed there. If there had they would not have known that all that loveliness came from their discovery, and they could not have pointed it out to the sneering friend who wanted to know what good such a discovery was, anyway. They did not foresee the prescribing doctor of this end of the century writing for sulfonal, saccharin, salicylic acid, antifebrin, phenacetin, antipyrin, or exalgin as a result of their work. They did not dream that cooks, confectioners, and perfumers would supply sweet pies, delightful cakes, toothsome bonbons, and fragrant colognes as products of their industry. The whole face of modern history is covered with just such surprises, and they loom up in the most unexpected places. They show us how every department of science and art is indebted to every other department for necessary aids to advancement. We are told that the body without the spirit is dead, being alone. It is equally true that chemistry without physics would be dead. Check the growth of chemistry and you check physics with it. Check the growth of physics and you check both chemistry and biology. Look through and through the sciences and you will find that they anastomose so closely with each other at every point, twining and intertwining in the most unexpected and remarkable ways, that to cut out one is to destroy all. As well might we try to dissever the nervous, muscular, osseous, glandular, connective, or other tissues from each other in a human being. They have developed with each other, and by each other, all along the path of their growth. All we possess as a civilized people has come to us by the interacting growth of the sciences, just as all we possess as individuals has come to us by the interacting growth of our tissues. Had the ruthless hand of fanaticism at any time in the dim and distant past been able to stay the development of any type of knowledge, we would to-day be prowling, naked savages.

All material things bow to a multitude of laws that are common to each. An incessant reciprocity of interests exists between them. The laws of light, heat, chemism, form, structure, color, electricity, magnetism, gravity, and motion belong to all alike, and can be studied in no one alone, nor even in all but one. The execution of Portia's demand on Shylock, that he cut his pound of flesh without the loss of one drop of blood, would be simplicity itself as compared with the demand that science go on in its work without physiology. Of course, a great building can progress some distance in its erection by confining all the work to one side; but soon there comes a narrowing of possibilities, and finally stoppage.

A DEBT WE OWE PHYSIOLOGISTS

ONE of the most profound secrets of the universe that man ever discovered, is that great fundamental truth known as the correlation and conservation of physical energy. Without it the world groveled for ages in mysticism and metaphysical speculation. With it man began to triumph over Nature as he had never done before. To it every science has done homage, and even ethics and theology have bowed before its majesty. Why was this truth so long in being seen? Why, when it was daily demonstrated before their eyes, did men not discover it sooner? What was the strongest weapon of the mystic in opposing its acceptance? What was the most convincing argument of the metaphysical speculator? Where was the last refuge found by its foes, when driven from point to point and vanquished at every turn? The whole strength of the opposition, the whole blindness of the times, and the last refuge of defense existed in a false physiology. Men thought they saw a creation of energy in muscular activity. Every time a man or beast moved they believed that motion was created by will. It was this that kept them hunting for perpetual motion. It was this that led them to believe in an elixir of life. It was this that caused them to go wild in their search for the philosopher's stone. This one false conception was the chain of enthrallment that held back progress and supported superstition. Vivisection stepped in and cut every link of this chain, thus freeing the minds of men. It demonstrated that muscular contraction was all done in obedience to mechanical law. It showed that vital force was but a form of other force. This demonstration was like the rising of the sun after a night of unusual darkness and gloom. Who can calculate its far-reaching consequences on human thought and human conduct?

During the time that the great doctrine of the conservation of energy was gathering its strength for the coming fray, Galvani, the Italian physiologist, made his celebrated experiment of having the leg of a freshly killed frog contract by contact with two metals. This experiment developed in the hands of Volta, Ampère, Arago, Faraday, Kelvin, and others into galvanic batteries, galvanometers, electric cars, electric lights, telephones, telegraphs, and the many other useful electrical appliances of this end of the nineteenth century. But for the physiologist at the beginning of this wonderful series of discoveries and inventions, where would the latter come in? Cut out the inspiration of the physiologist, obliterate his successive experiments on dead and living men and animals, remove the fertilizing influence of his work from the first half century of electric advancement, and where would it leave us to-day? The earliest electric instruments were made for his use. The earliest discoveries of electric laws were made to aid him. Later on, the telegraph carried along the work; but within the past few years, physiologists, surgeons, and general practitioners have all taken it up again. The cumulative results of the successive series of discoveries, as synthetized in our modern electric instruments of precision, show the touch of physiology quite as distinctly as they do that of physics. Here it is worth while to note that in complex instruments we usually have an epitome of the general results of reflected knowledge from many quarters. In the study of light this is particularly true, and we have in it one of the easiest aids in grasping this complex subject. Trace the growth of the telescope, microscope, polariscope, and spectroscope from the early experiments of Galileo, Leeuwenhoek, Nicol, and Bunsen, and it will be found that every science has rendered aid to every other science in which it is or may have been used. Leeuwenhoek's discovery of bacteria marks the dawn of bacteriology. As an optician his work was inspired by physiology. The physiologists were his best customers. When Peter the Great of Russia was in Holland, he requested and was granted an audience with Leeuwenhoek, who showed him the circulation in a frog's foot by the aid of his celebrated microscope. Without the stimulus of physiology we would not have had the microscope, and without the microscope we would have had neither bacteriology nor histology. Without the mystifying Brownian movements, the chromatic disturbances, the flaws, the scratches, and the many sources of error which had to be overcome to give good definition and lead to true discoveries, the study of the nature of light would not have been taken up and could not have been successfully pursued. It was the necessity for test objects for the microscope that started Nobert's genius to work. He succeeded in ruling lines so close together that 224,000 were made in the space of one inch. These lines produced interference and gave a spectrum. This led to the actual measurement of the size of a wave of light. It also led to Rowland's work on diffraction gratings, that has enabled our astronomers to study the chemistry of the sun and other heavenly bodies. Thus did physiology lead through microscopy and physics to chemistry and astronomy. Nor is this all. Lord Kelvin's calculations of the sizes and weights of molecules received their first impulse from the same cause. Young and others established the undulatory theory of light on facts that could not have been known but as they were discovered in the prosecution of the work of the physiologist. Look where we will at the history of the advancement of our knowledge of light, and everywhere it will be seen that the directing energy emanated from the conditions and necessities of physiological investigation. But a small amount of the work was done personally by the physiologist; yet their requirements inspired it. Even within the past few years we have had a typical illustration of just how this occurs. The Imperial Treasury of the Prussian Government supplied funds to Carl Zeiss to enable him to perfect his new optic glass, solely for the purpose of aiding bacteriologists to prosecute their work in better form.

The wants of the doctor have indirectly done more than all other conditions in inspiring and directing the study of light and optics during the past century. These discoveries have, in their turn, been the guiding agents in the advancement of chemistry, astronomy, optics, crystallography, and mineralogy.

As most of the wants that have led to these consequences were only to be satisfied by the work done in the laboratories of experimental physiologists, it becomes evident that vivisection is the very groundwork on which our civilization rests. Not until biology began freeing itself from the restraints and persecutions of ignorance and bigotry, did earnest or continuous work in experimental physiology set in. The centuries when no such work is recorded are labeled on the pages of history as the Dark Ages. Up to and even since the time when the new era began, medical men were imprisoned, burned, gibbeted, whipped, and shot when they dared to defile (?) rotten cadavers by dissecting them. To dissect a human body was then deemed a crime worse than murder. Doctors were told to either do without a knowledge of anatomy, study it from dead animals, in the butcher's shop, or accept what their books told them. Anatomy, they said, was already on the list of established knowledge, and no further experiments were needed to teach it. The public blamed physicians and surgeons for not curing them, and they blamed them worse when they sought for information or experience that would lead to their cure. Sentimentalism triumphed over sense with a majority then as it does with a minority now. At present we are permitted, as a privilege, to dissect a limited number of paupers; but when experiments on living animals are needed, a large number of influential and otherwise sensible people contest the right to make such experiments. It is less than a century since the rough hand of misdirected public opinion was removed from the anatomists. It is time that in free America, at least, the people had become sufficiently well educated to cease their persecutions of scientific vivisectors. The work of vivisecting, at best, is loathsome and unattractive. There would be far greater progress but for this. Only a few men are heroic enough to overcome their natural antipathy to it. Many good men would endeavor to subdue their dislike for it but for the public's folly in opposing it. The work of such men is wholly lost to science by such clamor. Those who do overcome their feelings, and take up experimental physiology, deserve the highest honor the nation can place upon them, and they should be shielded from the scowls of the oversensitive and the screams of the hysterical. Encouragement, not discouragement, is needed. These men are the source of inspiration and power by which the army of medical men fight back the fierce onslaught of pestilence and disease. When their hands are upheld, Israel prevails. When their hands are let down, Amalek prevails. Our clergy and our legislators who do their duty by these men will become the Aarons and Hurs of this age, in saving the human race in its war with disease.

AMONG THE EDITORS

THE LODGE DOCTOR

Fully 50 per cent. of the people pay their bills only because they have to, and doctors' bills come in for their full share of procrastination and neglect. The fallacious idea that physicians earn their fees easily incites this debt-shirking class to any and every expedient to get medical advice and treatment for nothing or next to nothing. This is the sole cause of the fattening of dispensaries and clinics, and the prime *raison d'être* of the lodge. Tenaciously rooted as this conspiracy is, and appealing as it does to the self-interest and base ambitions of a few disloyal physicians, it has come to stay, in our larger communities at least.

For these and most other ills of this kind the doctor has himself to thank; but it is not yet too late for us, by unanimous uprising, to curtail the output of medical colleges, or, better still, to shut up or consolidate about half of them. Many of them exist largely from selfish motives, and it necessarily transpires that many of their graduates are not infused with a high or lasting professional ideal.

What wonder, then, that some will sell their services cheaply to lodges, some descend to arrant quackery, and others, still, drift into abortion and other lawless practices!—*Med. News.*

NATIONAL MEDICAL LEGISLATION

For many years it has been urged by medical men and in medical societies and by the medical press, that the line of work occupied by the medical profession should have a larger representation than it has yet possessed in the affairs of the nation. For unselfish philanthropy, the disposition of the medical profession, urged and enforced as well as circumstances have permitted, in season and out of season, stands forth as a bright and shining mark to the representatives of every other profession, trade or calling. Every health law which has ever been passed, has become an act because urged by practitioners of medicine, or those intimately associated therewith. A profession which is striving every day to lessen sickness, and to thereby cut off its own revenue, deserves the highest recognition from the Federal Government. A public health officer should become a member of the President's cabinet, to whom should be referred the various medical acts coming up from time to time, and who should recommend appropriate medical legislation. Under such an arrangement, a national examining board could be organized, and the vexed question of State interchange of certificates could be settled upon an equitable basis.—*Med. Sentinel.*

PHYSICIANS AND LAWYERS

There is too little consideration shown the medical profession by the legal. Should we desire their advice a retainer is demanded, while they feel entirely at liberty to take our time, utilize our records, and profit by our experience and advice with no thought of payment. It is for the good of our patient, you know; and we have knowledge of a case, where a lawyer charged in his bill $25 for time spent in consulting a physician relative to the case, and yet declined to pay the doctor an office fee of five dollars.

Some one will yet arise in the ranks of the medical profession who will dare to say: " Five dollars, please, if you desire my advice in this case, and fifty if I am called to court."—*Atlantic Med. Weekly.*

WHEN PAY-DAY COMES

There are a large number of persons who do not hesitate to run up a large amount at the stores, provided they can have things charged. They forget that one of these days there must come a settlement.

There are certain drugs which have such an effect on one's nervous system that work appears lighter, therefore he is induced to exert himself still further and draws upon his reserve force to a marked degree. To be sure, the nervous system is so affected that he is not aware of this tax on his reserve powers.

It is a serious thing for us to take any remedy which will keep us from being warned that we need rest. Some months since, we had occasion to remark in these columns that there was hardly an athlete or bicycle rider who laid any claims to endurance who did not carry a good supply of those drugs which were said to increase the amount of muscle power. The day of reckoning is sure to come, and unless the excessive use of these drugs be checked we will have our strongest and best young men develop into dyspeptic, nervous and irritable wrecks.—*Pract. Med.*

MEDICAL EXPERT TESTIMONY IN HYPOTHETICAL CASES

A well-known lawyer, when asked his opinion of the value of medical expert testimony in hypothetical cases, replied that it served a purpose in showing the utter worthlessness of the medical testimony on the other side. He admitted, of course, that his own experts were open to a similar criticism, but said that the jury balanced the one against the other and considered the result as being equal to zero.

Between the rules of evidence in court on the one hand, and the desire of the lawyer, on the other hand, to make out the best possible case for his client, the physician may be placed in an embarrassing, or even compromising, position, or else feel obliged to decline to give the courts the benefit of his experience in such cases. The lawyer, too, may be driven by his opponent to think that he must rebut certain testimony by using the hypothetical question under most unsatisfactory conditions, which many physicians might regard as not preventing them from accepting the situation for what they considered a good enough purpose.

But even here, we think that both lawyer and physician may make a mistake. Not long ago, a lawyer contesting what was regarded as the insane will of an insane person, was confronted with the unexpected appearance in court of two physicians who, on a hypothetical question, testified to the man's sanity. The lawyer desired another physician to go at once to court and contradict these opinions, and was rather surprised at his saying that it would be impossible for him to place himself in such a position. The advocate was advised, however, to tell the jury that the question of the soundness or unsoundness of mind in the case before them was one of facts, and not of opinion; that they were even better able than the physicians to pass upon the facts, which seemed plain, inasmuch as their position was an impartial one, and that of the physicians prejudiced, because the physicians had been employed by the defense, and examined and cross-examined in such a way as to make it very difficult for them to avoid giving one-sided testimony. The lawyer followed the physician's advice, for which there was no fee, and gained his case. —*Boston Med. and Surg. Jour.*

BAD BILLS

As an offset to the generally acknowledged abilities of the physician in every other line of his work, it is also quite universally admitted that he is entirely deficient in business tact. Whether or not he is willing to accept such a verdict from his patients, he is nevertheless at certain seasons, when bills are sent to his otherwise grateful debtors, aware of a glaring fact that there is a marked difference between actually earning his money and in being promptly paid. Often content with the sentimental side of apparent appreciation of services rendered to his patrons, of lives saved, of suffering assuaged, and of health restored, he is too easily satisfied with the reflection that he has a very noble profession, but a very poor trade. All other things being equal, it is difficult to measure every standard of professional service rendered on a cold and hard money basis, and so tearful thanks and extravagant expressions of obligations on the part of his patients fill in the gaps that stretch themselves in the long waits between bills presented and checks received. There is oftentimes something extremely delicate in urging claims upon one who may owe his or her life to the skill of the medical attendant, and rather than dispel the pathos of such a recollection, the real benefactor in the case is easily coaxed to lean to the weaker side of personal vanity and to square his money account with the overweighing considerations of the touching realization of human gratitude. From the purely poetical side, no better compensation could be asked. Unfortunately, however, the doctor is not a mere ministering angel, who can live on air and who can rely on the usual means of aërial locomotion so inexpensively used by his seraphic brothers.—*Med. Rec.*

OUR DUTY TO THE STATE

Medicine, no less than law, is a jealous mistress, and exacts from those upon whom she would confer her highest favors, the most undivided affection and submission. It is an arduous profession, but there should be a stage in the doctor's career where he could give up some of his private duties and devote more time to the demands of high citizenship. Congress and the State legislatures would be greatly bettered by representatives from the medical profession. But whether in office or out, he ought still to remember his ordinary obligations to the community in which he lives, by attending primaries, conventions and elections, and thus do all in his power to advance the cause of honest government.—*Chicago Times-Herald.*

PATHOGNOMONIC SIGNS OF HEREDITARY SYPHILIS

What are the pathognomonic signs of hereditary syphilis? According to Silex, who recently delivered an address upon the subject before the Berlin Medical Society, there are three characteristic ones to be recognized. These relate to the eyes, the teeth, and the skin. As the only real pathognomonic symptom relating to the eyes, he mentions choroidea areolaris, in which are found, scattered over the fundus, particularly in the neighborhood of the macula, black points and patches, which present here and there white spots of different size, and larger areas with a black border. These represent atrophic colonies in the choroid and pigment patches derived from the pigment of stroma and pigment epithelium. The retina being also involved, vision in these cases is always very much impaired. Mercurial inunctions and iodide of potassium effect no change. In a few cases, the process, which is rare, remained unilateral. Of the numerous deformities of the teeth usually mentioned, Silex only considers that one form is pathognomonic, where the permanent upper incisors present a central excavation, denuded of enamel, beginning on the surface for mastication, and continuing upward in the shape of a crescent ; as a sign which is only found in congenital syphilis, he considers the well-known scars radiating outward in straight lines, which do not confine themselves to the inners of the mouth or to the lips, but radiate into the cheek and chin. Silex terms them pseudo-scars, and thinks that they are very likely due to a muscular tension of the skin. Histological examination proves that in the lines in question the papillæ, glands, and vessels are well preserved. The three conditions which we have mentioned are considered by Silex to be absolutely pathognomonic, and the presence of even one of them will lead to a positive diagnosis of congenital syphilis.—*Med. Times and Hosp. Gaz.*

COMMERCIAL MEDICAL COLLEGES

The sooner the medical profession of the United States determines to discourage all medical colleges in our midst, which are not endowed, or State institutions, and entirely independent of the fees of their students, the better. In other words, the profession, in its entirety, should determine that the "commercial medical college" must go.

Furthermore, a check should be put upon the dispensary abuse. The time is coming when there should be a combination upon the part of the members of the profession in favor of their own interests as against "wildcat" medical colleges, free dispensaries and other abuses, which have been developing in the profession during the last half century, and which will eventually pauperize the majority of doctors.

The truth of the matter is, if medical colleges were honest, they would announce in their advertisements that only one in ten of the applicants for admission into the profession is likely to succeed, unless they have inherited wealth or are in position to marry it.

It is a brutal and crying shame that innocent young men the country over are being inveigled, through the inducements offered by these medical colleges, into a profession which, year by year, is offering greater opportunities for starvation, and developing a spirit of commercialism which is to be deprecated.—*Med. Mirror.*

THE DOCTOR'S MISTAKES

No one can be so sure that he is right that he has never had reason to regret that he has been too direct and too positive in the expression of an opinion. Our patients are never charitable in condoning this fault, but always hold it against the man who commits it. The more he attempts to explain, the worse off he is. The results of an autopsy are past all arguments for reconciling prognostications with facts. If the patient lives when otherwise he should die, he never loses his lucky privilege of talking back. His family and friends forget the joy of his recovery, often in spite of fate, in the satisfaction of getting even with the physician who gave up his patient so prematurely. The sympathies are always on the side of the man who wins, and, while no one regrets his reason for felicitation, the absence of one less witness against us might under other circumstances be borne by us with becoming resignation. The lesson is learned too late, that of saying and promising too much, and in thus doing more than our real duty to our patients. When we cannot control the causes of disaster, it is worse than folly to predict results. If we mistake a seventy-year clock for a twenty-year one, the pendulum in the former generally swings on until it runs down in its own regular way. It is the vital pendulum, after all, that must be studied, and until it actually stops it is never safe to say what is or what will be.

In all our relations with our patients, it is the safer and better rule to be more than cautious in our temptations to think aloud in their presence. A discreet general guards his line of possible retreat with as much care as that of attack, concluding that while it is quite bad enough to be defeated, it is still worse to be hopelessly bagged by the enemy. The older practitioner need not be told that the practice of his art is constantly beset by startling surprises. Patients not only get well who should die, but many die without ostensible scientific reasons.—*Med. Rec.*

ORIGINAL PAPERS

SOME PRACTICAL OBSERVATIONS ON APPENDICITIS AND APPENDECTOMY

By JARVIS S. WIGHT, M.D., LL.D.
Professor of Operative and Clinical Surgery at the Long Island College Hospital, Brooklyn, N. Y.

THE appendix varies in size, as shown by two cases of hernia that came under my care. A man about 50 years of age had a large strangulated hernia of the right side. In operating, I found in the sac much omentum, the caput coli, and the lower end of the ileum. I amputated the appendix, which was over six inches in length, and had a diameter large in proportion. A man 85 years of age had a strangulated incarcerated hernia of the right side. In the sac there was much omentum, the lower end of the ileum, and the caput coli. The appendix was about one-half inch in length, and so completely covered by adhesions as to make it difficult to find. It was not removed.

In these two cases the appendix projected from the lower end of the caput coli; only in the latter it had dropped backward, and was against the serous surface. It was difficult to find, and might have been wholly overlooked in a case of appendicitis, especially after the formation of pus. The appendix of the first case might have been successfully removed in any ordinary case of appendicitis.

It is suggested that a small appendix may be located behind the caput coli, with its apex pointing upward. Some cases of suppurative appendicitis support this conclusion. A 16-year-old boy came to my clinic, having an abscess pointing just below the superior anterior spine of the ilium, and quite near the bone. A free incision let out a large quantity of pus. The abscess-cavity was traced down to and behind the caput coli. The appendix was not found. The usual treatment was carried out, and the patient left the hospital in a few weeks, with the cavity apparently healed. The following year this patient came under my care, with a sinus in his back. It was opening in front of the psoas and the erector spinæ muscles, and just above the crest of the ilium. With the patient under ether, I opened the sinus, and traced it downward to the post-caput region. The day after the operation, when the gauze packing was removed, there was a discharge of pus and offensive fecal matter. The process of repair took nearly three months, but resulted in a cure. There has been no recurrence of the disease up to the present, after four years.

It would seem to be reasonably certain that an appendix of considerable length might ascend behind the caput coli and the colon, and be the seat of an appendicitis. This statement seems to be corroborated by the following case: In consultation with her doctor, I saw a woman, about 45 years of age. She had been ill for several weeks, and was in a very serious condition. She had an opening in the median line, just above the umbilicus; it was discharging pus containing fecal matter. The diagnosis had been one of abdominal abscess. After washing off the abdomen and irrigating the sinus, a soft catheter was introduced into the sinus several inches. The index finger could trace the sinus to the right and downward until it reached the post-caput region. It appeared to be a case of suppurative post-caput appendicitis. This patient died, but an autopsy was not permitted.

From time to time I have had cases of so-called pelvic abscess, which, no doubt, have been the result of appendicitis. These cases are sometimes quite simple, and are not at all serious. For it happens that the wall of "limiting fibrin" will guide the pus toward a point where it can escape without harm. A sailor, about 40 years of age, had an abscess pointing in front of the right ilium, just below the superior anterior spinous process. A free opening let out a large quantity of bad-smelling pus. The finger could trace the abscess cavity to the post-caput region, where there was a small perforation of the head of the colon, as if located at the place from which the appendix had sloughed off. A permanent recovery followed. I saw a 6-year-old boy, with his family doctor, for the purpose of deciding upon the nature of a swelling in front of the right ilium. An abscess was pointing between the spines of the ilium. A free incision let out much pus having a fecal odor. Exploration with the finger proved that the pus cavity extended to the post-caput region. The appendix could not be found, nor could an opening in the colon be detected. The cavity was healed from the bottom and a cure effected.

A complete demonstration of a case of post-caput appendicitis occurred in the Long Island College Hospital. A servant girl, about 26 years of age, had obscure signs of inflammation in the region of the appendix. The patient had been complaining about two weeks. Some of the doctors who examined the case said they could feel the inflamed and enlarged appendix. I made the hypogastric incision. The ileum and the colon could be traced to their juncture. The appendix could not be felt nor seen. A large and firm mass of adhesions walled in and bound down the caput coli. Forcibly separating and raising the caput coli on its outer aspect, a somewhat copious hemorrhage took place. After sponging away the blood, the appendix was found firmly imbedded in the mass of adhesions behind the lower end of the colon. The appendix was much inflamed and enlarged, but there was no pus. It seemed quite certain that the tearing away of the appendix would cause perforation of the colon; it was therefore left. The exposed portions of the appendix, and the oozing surfaces of the torn adhesions, were carefully sponged with a 1-5000 bichloride solution. The raised part of the adhesions was replaced. A rubber drainage tube was inserted and sutured in place. The abdominal wound was closed with stitches, and aseptic dressings were applied. A slight discharge came from the drainage tube, which was removed on the fourth day after the operation. Primary union took place, except where the drainage tube was, and there speedy closure by granulation occurred. Pus did not form, and the highest temperature was 99°. A few days after the operation the temperature became normal. This patient had a good recovery, with no tendency to ventral hernia.

In this case there are some points worthy of note. It was impossible to feel the appendix through the abdominal wall, as some of my colleagues thought. It was difficult to feel the appendix, even after the caput coli had been torn from the mass of adhesions. The vertical incision, made midway between the umbilicus and the superior anterior spine of the ilium, obstructed the search for the appendix. The reasons for this will be stated later. The question of removing or leaving the appendix is an important one. In this instance the result was favorable. More evidence on this point will be presented.

Each case of appendicitis has its own peculiarities, as a rule. One case may differ from another, and may require a special plan of treatment. An operation begun for appendectomy may turn out to be one of simply opening an abscess. To illustrate: A 6-year-old boy came under my care on Jan. 11, 1894. He had suppurative appendicitis. In a few days I operated, cutting down directly upon the most prominent part of the swelling, which was adherent to the mural peritoneum. It was easy enough to make a free opening into the cavity of the appendicular abscess, and let out a considerable quantity of bad-smelling pus. On inspection, the appendix was not found, nor did I deem it safe to make a decided effort to find it, since the abscess wall was thin and might be ruptured, so as to lead to general infection of the peritoneum. This case made a speedy and good recovery.

On March 23, 1894, I operated for appendicitis in the case of a man about 50 years of age. He was an alcoholic, and had suffered from a prolonged attack of the grippe, which had caused great weakness of his heart. It was a case of appendicular abscess, with the peritoneal cavity well protected by firm adhesions. The operation consisted in cutting through the territory of adhesions into the abscess cavity, where it pointed most. As in the previous case, the appendix could not be found after a reasonable search. This patient made an excellent recovery. But I kept him in bed for some days on account of his weak heart. One evening he got up suddenly and stood beside his bed, when in an instant he dropped dead from heart failure. An autopsy was not allowed.

An appendicular abscess may open into the general peritoneal cavity during the progress of appendicitis. This serious accident may happen in various ways. Some cases will illustrate:

A case of much interest came into the hospital Dec. 12, 1894. The patient was about 40 years of age. He had not been feeling well for some weeks, but had tried to continue work. When I saw him he had general peritonitis, which had been treated for obstruction of the bowels, with active cathartics. Four days previous, as he was lifting a heavy weight, he felt something give way in his "belly," and afterward he became much worse. I performed median celiotomy for exploration, and found general suppurative peritonitis, with the intestines in a general mass of firm adhesions. There was considerable extravasated blood in the right side of the abdominal cavity. Then the hypogastric incision was made, giving exit to blood, and pus, and broken-down material. The patient was in a state of extreme collapse, and death seemed imminent. The aseptic irrigation was made as rapidly and completely as possible. Drainage was carried out in the case of both wounds. The patient did not regain consciousness, and died in a few hours after the operation. The adhesions of a suppurative appendicitis had been more or less extensively torn by the efforts of the patient to lift a heavy weight, causing a copious flow of blood. The wall of the appendicular abscess had been ruptured at the same time, and the abdominal cavity had been flooded with pus. In such an event, the efforts of the surgeon cannot be of much avail.

A few days after the death of this patient, a laborer, about 35 years of age, was admitted to the hospital. He was suffering from acute general peritonitis, and was in a state of severe shock. On the ground that such cases are likely to be the result of a suppurative appendicitis, I made an explorative operation. A vertical incision was made through a point midway between the umbilicus and the superior anterior spine of the ilium. The appendicular abscess had ruptured, pouring its contents into the abdominal cavity, among the coils of intestine. The suppurating appendix had separated from the caput coli, and was washed out with the fluid of irrigation. This case was treated by aseptic drainage, and recovery took place in a few weeks, but was followed by ventral hernia. Subsequently I operated to cure the hernia, and found the coils of intestine firmly adherent to each other, to the abdominal wall, and to the folds of omentum. A fairly good result followed the operation, which need not be described in this place. The case, however, drew my attention to the comparative merits of the vertical and hypogastric incisions in appendectomy.

In the earlier stages of appendicitis, before suppuration takes place, when the inflammation, if it exists, is, for the most part, in the inner structure of the appendix, an amputation of it can be made, and the abdominal wound can be closed, so as to obtain primary union, with but little danger of resultant ventral hernia. In cases of suppurative appendicitis, in which the abdomen must be left open for drainage, a ventral hernia may result, even with the most careful treatment. In my cases of appendectomy, with vertical incision, the lower end of the ileum has been prone to prolapse; that is, so much of it as is not held back by its attachment to the caput coli. This tendency of the ileum to prolapse was more marked and troublesome when the vertical incision was made midway between the umbilicus and the superior anterior spine of the ilium. Some very serious cases of ventral hernia, following the vertical incision, have come under my observation. In the meantime, I had noticed that cases of so-called pelvic abscess, opening near the border of the ilium, did not show any tendency to leave a ventral hernia—and these were cases of suppurative appendicitis. The suggestion came to me that the hypogastric incision for appendectomy would be advisable, and would conduce to the prevention of ventral hernia. If this were true, we have, for the prevention of ventral hernia after appendectomy, a useful remedy in the proper making of the hypogastric incision.

The hypogastric incision begins nearly on a level with the superior anterior spine of the ilium. It curves inward and a little upward from a line parallel with Poupart's ligament, and is made about two inches in length. It can be extended in either direction, as the case may be. It is usually about one-third the distance from the superior anterior spine of the ilium to the umbilicus, and it is sometimes made quite close to the border of the ilium. In case we can locate the appendicular "tumor," the center of the incision should be over the most prominent part of it. If this tumor contains an abscess, it can be opened without exposing the abdominal cavity; and if it does not, we can go down upon the outer aspect of it, and so avoid disturbing the ileum and its relations.

Some cases will illustrate this practice: Mrs. T——, about 28 years of age, had an appendicitis of apparently recent origin, and the inflammatory swelling was felt below and near the superior anterior spine of the ilium. The hypogastric incision was made directly down upon the most prominent part of the "tumor," which was not adherent to the abdominal wall. At first there was no protrusion of the contents of the abdomen. But when the inner edge, or flap, of the wound was drawn toward the linea alba, the omentum and the lower portion of the ileum began to protrude, giving much trouble. The appendix was not in the downward or inward position, but was found in the post-caput region, in the midst of very firm adhesions; it was deemed advisable to leave it, since an attempt to remove would, no doubt, have perforated the caput coli. To increase the difficulty, the abdominal wall was nearly four inches in thickness, making the wound cavity very deep. Laparotomy sponges were put between the inner flap and the lower end of the ileum and the omentum, which was very abundant. Drainage gauze was put into the cavity between the appendicular "tumor" and the wing of the ilium. On the day after the operation the sponges were removed, and adhesion between the mural peritoneum and the subjacent omentum and ileum took place in a few hours, closing, as it were, the abdominal cavity. On the following day, pus began to come up from the bottom of the drainage cavity, which did not communicate with the abdominal cavity. The temperature went down to normal. In about four weeks a good recovery followed, with no tendency to ventral hernia.

A laborer, about 50 years of age, had suffered pain in his abdomen for several months. One day the pain became so severe that the patient gave up work. I saw him in the afternoon, and in the evening performed appendectomy. It was easy enough to trace the appendicular "tumor," and I cut down upon its outer aspect, by means of the hypogastric incision, and found no adhesions between it and the mural peritoneum. The omentum and the ileum were held out of the way, and after much "digging," the appendix was found behind the caput coli; it was as large as the thumb. After ligation and removal, the stump was disinfected. The inflammation was intense, and pus was forming. The meso-appendix was suppurating. It was very vascular, being much thickened. It was ligated and excised, and the hemorrhage was arrested. Laparotomy sponges were inserted, so as to "wall off" the peritoneal cavity. Drainage gauze was packed into the cavity between the caput coli and the wing of the ilium. Adhesions formed between the mural peritoneum and the omentum and the lower end of the ileum, and the drainage cavity was left to fill up with granulations. This patient made a rapid recovery, and there was no tendency to ventral hernia.

The last patient had a very thick abdominal wall, and the appendix was very deeply seated. The operation was very difficult. The external surface of the wall of the caput coli was torn during the effort to bring up the appendix, and several sutures were required to restore the continuity of the serous surface. This case differed in many points from one upon which I operated a few days subsequently, and of which a brief clinical history is here given:

A young man, about 18 years of age, had chronic appendicitis, which became acute. He suffered severe pain, and had an appendicular "tumor" that could be readily felt.

He was emaciated, and was in a feeble condition. The hypogastric incision was made quite near the spine of the ilium. A careful search about the caput coli did not disclose the appendix. After "digging" through the adhesions, the lower end of the colon was turned inward, and then an incision brought the suppurating appendix into view. It had been concealed behind the caput coli. Its apex was adherent to the posterior wall of the ascending colon. It was ligated at its apex and at its base, and the intervening portion was exsected. The suppurating surfaces were thoroughly disinfected. The prostration of the patient was much increased by the operation. The omentum and the lower part of the ileum were put under the inner flap, and kept in place by means of the laparotomy sponges. The cavity between the wing of the ilium and the caput coli was packed with drainage gauze. A rapid recovery took place, and no tendency to ventral hernia was left. The omentum and the lower end of the ileum adhered to the mural peritoneum, and so could not protrude. The repair was by granulation and secondary union.

Two cases of much severity, and of great practical importance, are here reported, as they illustrate two lines of treatment, tending to prevent ventral hernia. It is important to have our patient pass safely through the dangers of an operation, as well as to leave him in a condition of minimum disability.

A poor boy, about 10 years of age, was in a low state of health, and had a severe attack of appendicitis, accompanied by shock. The appendicular "tumor" was well marked, and there was some general peritonitis. The hypogastric incision was made quite near the spine of the ilium. Considerable pus was found, and there were adhesions here and there, so that the peritoneum was exposed to infection. After considerable dissection, the suppurating and necrotic appendix was found in the post-caput position. The appendix was ligated and cut off, and the stump was disinfected. The abdominal cavity was thoroughly irrigated with a warm saline solution. The omentum and the prolapsing ileum were pushed under the inner flap, and kept there by means of laparotomy sponges. The cavity between the caput coli and the ilium was packed with drainage gauze. On the second day the adhesions had "walled off" the peritoneal cavity, and left the drainage cavity to heal by granulation and secondary union. Recovery took place, with no tendency to ventral hernia.

An Italian boy had a very serious suppurative appendicitis, that had been under medical treatment for some time. The appendicular tumor, or abscess, was pointing near and below the spine of the ilium. Adhesions had formed between the abdominal wall and the abscess. A rapid dissection down upon the most prominent part of the "tumor" disclosed to the "feel" a wall of limiting fibrin. A stroke of the knife let out nearly a pint of bad-smelling pus. The patient was in collapse and almost pulseless. He was turned over on the right side, and the abscess cavity was well irrigated. The abscess cavity extended downward to the internal inguinal ring, and had a very thin wall on its inner aspect. It required very gentle examination, in order not to break it down. A good recovery followed after many weeks, with no tendency to ventral hernia.

It will be seen that sound reasons exist for making the incision for appendectomy nearer the spine of the ilium than umbilicus.

In a case of post-caput appendicitis, the surgeon can reach the pus cavity with greater certainty and safety, not only at the time of the operation, but during the subsequent treatment. It also facilitates the attempt to find the appendix in case it is located higher up, or lower down, in the abdomen than normal. It must be kept in mind that the appendix is an outgrowth from the caput coli, and that when we find the caput coli we are near the appendix—no matter where the apex of the appendix may be.

Some of these points may be illustrated by cases:

A man, about 40 years of age, had been obliged to stop work, on account of a severe pain in his abdomen, and was sent to my clinic for appendectomy. I made the hypogastric incision quite near the spine of the ilium, and found some adhesions of the appendicular "tumor" to the mural peritoneum, but leaving the peritoneal cavity exposed to infection. It was difficult to prevent the omentum and ileum from protruding. For protection a laparotomy sponge was inserted on the inner aspect of the caput coli, so as to protect the abdominal cavity. Gently separating the adhesions of the lower end of the colon from the outer and posterior side of a post-caput appendicular abscess, an opening was made, and the pus, in considerable quantity, was thoroughly removed by irrigation, the patient being turned upon his right side. The appendix could not be found by the most complete exploration of the abscess cavity. The sponge, already in place, was removed, and two fresh ones were inserted. The appendicular cavity—the one between the caput coli and the ilium—was packed with drainage gauze. In brief, this patient recovered rapidly, with no tendency to ventral hernia.

The following case was one in which the hypogastric incision made it possible to go directly down upon the point where the appendix could be found with the least disturbance of the tissues. In fact, the vertical incision would have made it very difficult to expose the appendix with facility and safety.

A very "stout" gentleman, about 28 years of age, had been in poor health for some months, having suffered pain in his abdomen from time to time. Finally the pain became localized in the region of the appendix, and became so severe one day that he left his work and went home, taking to his bed. His doctor made a diagnosis of appendicitis, and requested me to see him. In operating, I made the hypogastric incision near the spine of the ilium, and found the abdominal wall about four inches in thickness. The appendix was disclosed by separating the adhesions binding down the caput coli; it was located in the post-caput region. The appendix and the meso-appendix were in a state of suppuration. It was very difficult to expose them for ligation and removal. The stumps and the appendicular cavity were thoroughly disinfected. The ileum and the omentum were kept in place by means of inserted laparotomy sponges, and the outer part of the cavity of operation was packed with drainage gauze. The result was very satisfactory, there being no tendency to ventral hernia.

In the case of a young man, about 18 years of age, who had catarrhal appendicitis, the incision had to be extended upward and outward above the spine of the ilium some distance, in order to find the appendix, which was much enlarged, projecting from behind the ascending colon. That the appendix is located in such a position is thus shown. A case noted in this article corroborates it; the case was one in which the abscess cavity extended upward behind the colon, and finally opened in the median line, just above the umbilicus.

The following case was one of great interest. The diagnosis was difficult, and a late operation was performed, saving the patient's life. It emphasizes two points—the surgeon cannot always be sure of making a correct diagnosis; it is wise, in some cases, to perform an explorative operation: A 6-year-old boy, having a subacute general peritonitis and signs of disease of the right lung, had been treated for general tuberculosis for some weeks. There were indications of right hip-joint disease, for the most part, to be referred to the psoas muscle, the right thigh being flexed and its motions limited. The patient finally came under my care for an apparent psoas abscess, there being a fluctuating swelling above the crest of the right ilium. I made the usual incision for opening a psoas abscess, and found the upper end of a large pus-cavity, which extended downward behind the ascending colon to the caput coli. Just in front of the spine of the ilium another opening was made into the abscess cavity, to insure free irrigation and good drainage. The case had been one of chronic appendicitis, accompanied by septic intoxication. The vitality of the patient was sufficient to resist a fatal issue of the disease. A post-caput appendicular abscess had interfered with the action of the psoas muscle. This patient made a rapid recovery.

The case just related brings to mind one upon which I operated in the summer of 1895. A young man, about 18 years of age, was in a low state of health, and had been complaining for some weeks. It was thought that he had tuberculosis. In the meantime, he had an attack of acute appendicitis. The appendicular "tumor" could be plainly felt, and I cut down upon it, by means of the hypogastric incision, finding no adhesions of any structure to the abdominal wall. A portion of the omentum was ligated and removed, as it was badly twisted and strangulated. The ileum and the lower end of the colon were carefully examined, but a very persistent search did not disclose the appendix. It seemed as if further dissection would open the lower end of the colon. The wound in the abdomen was closed with silk sutures. In a few days the sutures were removed, and a central opening was made by pushing the finger through between the flaps, when pus came out, as if from a tortuous channel. In the meantime, the right thigh became very much flexed, and any effort to extend it caused very severe pain. The anterior wall of the lower end of the colon was visible in the opening, in the form of a marked hernial protrusion, as if it was being pressed forward. It was evident that adhesions had formed, and that the abdominal cavity was "walled off" from the abscess cavity. An operation was performed to lay open the tortuous pus channel. As the pus was discharged more and more completely, the protruding colon retreated within the abdomen, and finally subsided, leaving the wound cavity to fill up with granulations. As the improvement went on, the thigh symptoms disappeared. This case was one of post-caput appendicitis, in which the pus invaded and pressed upon the psoas muscle. It was fortunate that the pus found its way outward toward the wing of the ilium. If it had gone inward, the case would have been more serious. As it was, the patient made a good recovery, and had no tendency to ventral hernia left.

Miss B——, about 30 years of age, suffered from appendicitis, and did not consent to an operation for a week or ten days, when there was some improvement. Fearing a relapse, she consented to an operation. I made the hypogastric incision, and found ptosis of the transverse colon, as well as ptosis of the small intestine, which had increased the severity of the symptoms. The appendix was very large, being curved and twisted upon itself. Its apex was firmly adherent to the dependent transverse colon. A ligature was applied to each end of the appendix, which was then exsected. Both stumps were disinfected. It was difficult to find the appendix, as it had been concealed by the prolapsed intestine. It was made a drainage case, on account of the activity of the inflammation, accompanied by a tendency to suppuration. On the fourth day all drainage gauze was removed, and the granulating flaps were brought together by adhesive straps. The adhesive straps were applied across the abdomen and over the crest of the ilium, going just above the upper end of the hypogastric incision. Here were two noteworthy points: The ease with which the flaps were kept together; and the completeness of the secondary union, which resembled primary union. Of course, there were no stitch abscesses. After a year there is no tendency to ventral hernia.

The following case has several interesting features: A woman, about 45 years of age, had a hernia that annoyed her for several years. She was taken to the hospital, and when I saw her she was suffering from shock. It was said that she had a hernia which had been reduced. In a little time some reaction came on. I made an explorative laparotomy to discover the cause of the serious illness. I examined six or eight feet of the lower end of the ileum, and found it much congested and somewhat collapsed. On the right side, above the femoral ring, there was a considerable sub-peritoneal pocket, which was, doubtless, the hernia sac. In the course of the operation, the sac, or pocket, was obliterated. The patient had been in the habit of reducing the hernia herself. On the way to the hospital, the reduction had taken place from motions of the ambulance, going over the rough pavement.

The tip end of the appendix was found on the left side in a position corresponding to that of the caput coli on the right. The appendix was about six inches in length, and intensely inflamed, but suppuration had not set in. The base of the appendix was ligated with strong catgut. After amputation, the stump was disinfected. A short hypogastric incision was made, and the catgut ligature was drawn under the border of the mesentery, and then brought out through this incision. The celiotomy wound was closed with silk sutures. Subsequently, there was some suppuration in the holes of the superficial sutures. The cure was complete, there being no tendency to ventral hernia. The caput coli and the base of the appendix are quite constantly in the same location, which may be called normal. But the tip end of the appendix may be found in different locations in different patients. In the case just related, an abscess of the tip end of the appendix would have been located on the left side. One such case came under my observation in the summer of 1894. But it still remains pertinent to say that it is a good rule to cut down upon the outer aspect of the caput coli in a case of appendicitis. Of course, exceptions must be dealt with as they are met.

The surgeon cannot always have an ideal appendectomy. The following case indicates this: A case of general septic peritonitis, having important practical bearings, came under my care in January, 1896. It may have been one of perforating appendicitis. Even if it were not such, it throws light upon the treatment of cases of perforating of appendicular abscess. A man, about 50 years of age, had suffered for twenty years from an irreducible right scrotal hernia. One morning, as he was lifting a weight of about one hundred pounds, he suddenly felt a severe pain in his abdomen. At the same time the hernia became tense. During the day his water stopped, and could not be drawn. In the evening I saw him, and reduced a considerable part of the hernial tumor, demonstrating that the contents of the incarcerated intestine had been more or less reduced. He said the pain was in the abdomen, and insisted that the hernia was all right. Exploration, by median celiotomy, disclosed the following facts: Acute septic peritonitis with firm adhesions; the complete absence of any condition of hernial strangulation; the fixation and immobility of the intestines, except the angle of the ascending and transverse portions of the colon, which was in a state of ptosis. It was impossible to find the appendix, so extensive were the adhesions. Herniotomy disclosed the complete irreducibility of the incarcerated intestine. The abdominal cavity, in so far as possible, was thoroughly irrigated with a warm saline solution. A rupture of the bladder was excluded, after a careful examination with proper tests. Three laparotomy sponges were now introduced into the wound, and left from Thursday evening, the time of the operation, until the following Sunday forenoon, when they were removed. The drainage had been excellent, and there was no tendency to ventral hernia, since the adhesions anchored the intestines. In the meantime, the patient, evading the nurse, got out of bed, and went to the water-closet to have his bowels move. This patient made a quite rapid recovery, which seemed to show the advantage of free drainage in cases of infective peritonitis. The existence of appendicitis was not proven, but it seemed to be the reasonable cause of the patient's condition.

To judge from what we have above brought forward, it would seem possible to make some suggestions, having to some extent the force of the practical conclusions. These conclusions have been already published by me in the *N. Y. Med. Jour.* (Oct. 24, 1896), being embodied in a "Note on the Hypogastric Incision in Removal of the Vermiform Appendix." They are as follows:

"The hypogastric incision is made nearly parallel with Poupart's ligament. It is slightly curved, having the convexity downward and outward. Draw a line from the umbilicus to the superior anterior spine of the ilium, and divide it into three equal parts. The hypogastric incision is made near the junction of the outer and middle thirds of this line. The location of the incision may vary according to circumstances.

The incision may be made quite near the spine of the ilium. It usually begins a little above the line drawn from the umbilicus to the spine of the ilium, or it may be made wholly below this line. At the outset the incision may be about two inches in length, and subsequently it may extend in either direction if necessary.

"This incision may afford the following advantages: There is less danger of injuring the subjacent intestine, the lower part of the ileum, and the caput coli. There is less tendency to prolapse of the omentum and the ileum. This kind of prolapse sometimes interferes with the orderly success of excision of the appendix. The inner flap can be well drawn toward the median line for the purpose of thorough exploration. This incision enables the surgeon to "wall off" the general peritoneal cavity with facility and certainty. It affords excellent drainage at the time of the operation, as well as subsequently, if the case is one in which primary union cannot be obtained.

"An appendicular abscess can be opened on its outer aspect in such a way as to prevent infection of the peritoneal cavity—a point of much importance. In a great many cases it gives the best opportunity to find and amputate the appendix. For primary union, it is more favorable to the adaptation of the edges of the wound than the vertical incision. The flaps can sometimes be held in apposition by means of a piece of adhesive plaster laid across the abdomen, just above the upper end of the incision. A minimum of injury is done to the muscles and nerves—this is an important advantage. In some cases secondary union quite as good as primary has resulted, since the granulating edges of the flaps are easily adjusted and held together. The repair following the hypogastric incision has not been followed by ventral hernia. For this immunity it is pertinent to state the following reasons: There is no serious nerve injury; the muscles remain in good condition; the caput coli is under the inner flap, and does not tend to protrude; the omentum and ileum are usually kept in place by adhesions, and do not press against the newly formed scar. If any cases of ventral hernia, in the lapse of time, follow the hypogastric incision, they will be reported by the author.

"It is admitted that adhesions in the abdominal cavity are not desirable, and are to be avoided if possible. But it may be said that a ventral hernia is more objectionable than adhesions. It is more necessary to make this statement, since in all cases of post-operative ventral hernia in which the author has operated, more or less extensive adhesions have been found. Every surgeon of experience knows how unfortunate a patient is who has a ventral hernia following the removal of the vermiform appendix."

Brooklyn, N. Y.; 30 Schermerhorn street.

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Pyramidon—An Antipyretic and Anodyne

This substance is known chemically as dimethylamidophenyldimethylpyrazolene, or dimethylamido-antipyrin. It is a derivative of antipyrin, and is intended to be used like the latter and for similar purposes. It is a yellowish-white, almost tasteless, crystalline powder, soluble in ten parts of water. Its aqueous solution is colorless and yields with ferric chloride an intense bluish-violet color, changing rapidly to violet, that, as compared with the iron reaction of antipyrin, rapidly fades and disappears. With a nitrite and sulphuric acid, a similar though less intense violet color is also obtained, that also quickly fades and disappears; whereas the green color yielded by antipyrin under similar circumstances is much more stable. Nitric acid gives with pyramidon a violet or dirty amethyst color; while with antipyrin it reacts green, a further addition of the reagent after boiling causing a red color.

The effects of pyramidon on the system are analogous to those of antipyrin, and are produced by smaller doses—about one-third of those of antipyrin; furthermore, the action of pyramidon is more slowly manifested, subsides much more slowly, and is milder than that of antipyrin.

Experiments made by Dr. W. Filehne (*Berl. klin. Woch.*, XXXIII), gave the following results: Doses of 0.5 gme. (7½ grn.) produced neither subjective nor objective symptoms, but the presence of the drug could be detected in the urine in twenty minutes by the ferric-chloride test. Its effects in three cases of febrile headaches, in four cases of nephritis, and in twelve cases where purely antipyretic results were desired, showed that, although the number of cases were too few to draw any positive conclusions from, this remedy acts quite promptly, its analgesic power is almost a constant one, and the duration of its effects constitutes a marked advantage over antipyrin. The small adult dose (0.2 to 0.5 gme. [3 to 7½ grn.]), the ready solubility of the remedy in water, and its scarcely perceptible and not unpleasant taste, permit of its exhibition in simply 1 : 30 aqueous solution (without any corrigent), of which from one teaspoonful to a tablespoonful may be given as a single dose, or otherwise two teaspoonfuls repeated in four hours.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Lavage of the Organism

Intravenous injections of salt water have been shown to exert an antidotal effect upon toxins introduced into, or formed within, the organism. Dr. Roger, at the Paris Biological Society (*Med. Week*, IV, No. 50) elucidated the question by means of substances easily detected in the urine. Control experiments showed that after injection into the veins of rabbits (2 ctg. of potassium ferrocyanide) the injected substance appears more quickly in the urine and becomes entirely eliminated in those animals receiving salt-water injections. Experiments with sodium sulphindigotate showed similar results. The beneficial effects of intravenous injections are therefore due to lavage of the blood, or rather of the organism, by which the toxins causing the symptoms are rapidly eliminated.

Jaundice with Pneumonia

Dr. G. Banti, in *Centralbl. f. Bact. Parasit.* (No. 24), says that in certain cases of pneumonitis a light icteroid coloration of the eyes is noted. In the urine, a lack of bile pigment. Urobilin is found in great quantity, more than in other forms of pneumonia. Less often an icterus of the mucous membrane and conjunctival surfaces appears, with bilirubin in the urine. The causes of this kind of jaundice have heretofore not been well accounted for. Various theories have been put forth, e. g., icterus from liver stoppage, from catarrh of the gall duct, from the taking-up of hemoglobin in the same way that the lung exudate is reddened with the red blood corpuscles. These conjectures are pure hypotheses and not founded on observed facts. The jaundice of which Banti speaks might result from a hemolysis caused by the diplococcus lanceolatus capsulatus. Experiments on animals (1890) showed effects upon the red blood corpuscles. These bacteria would have the same effect on human life. Afterwards, experiments carried the belief that in fibrous pneumonia this diplococcus might be found, not alone in blood, but in the liver, spleen, etc.

The extension of this germ in the whole system, and its chief existence in spleen, proved the hemolysis. The author had no chance until last spring to solve the cause of icterus in pneumonia. In Florence, a pneumonitis broke out, usually jaundiced. Fifteen cases were seen. Icterus was intense. The brown urine gave distinct reaction for bilirubin, and was also found in the feces. Most of these cases were of a severe type—50 per cent. being fatal. Toward convalescence, cessation of fever gave a disappearance of bilirubin from urine. On post-mortem, the gall duct was found thickened. Intestinal contents were highly colored with gall. In all cases there was enlargement of spleen. No catarrh of duct per examination with microscope.

No obstruction was found. Liver cells showed disturbances of function, and nothing further. Analysis of spleen showed hemolysis. In these cases appeared all the clinical and anatomical signs of true icterus. Sputa showed diplococci lanceolati capsulati. Less numbers in blood in heart, spleen, liver, etc. The diplococci were found in order by twos, lancet-shaped, with distinct and colored capsule. Cultures inoculated in rabbits and mice were quickly fatal, and blood of these animals showed the diplococcus lanceolatus capsulatus. Rabbits inoculated with lung discharge showed high fever and died of blood-poisoning. Further experiments made on these and other animals, and examinations of urine, blood, and sections of viscera, together with analysis per spectrum, all show effects of the hemolysis of this diplococcus, which may be summarized as a blood disintegration, due to the action of this germ. The icterus pneumonitis is an infectious pneumonia in the manner described above.

Treatment of Scarlet Fever

G. Gordon Campbell, in the *Montreal Med. Jour.* (No. 7), states the cause: Microbe not yet isolated; a specific poison, capable of reproduction, and transmitted by personal intercourse; taken into system through respiratory tract. Cleansing of nose and pharynx advised after exposure. Three weeks may elapse after exposure before attack. Six weeks isolation demanded.

Preventives: Isolation, disinfection, ventilation. No medicine given for fever. Diet: Fluid for first two weeks, soft food for third week, and solids only after they are allowed up. Antipyretics used in high temperatures—the best form of these: cold water, either in the form of wet packs, sponging, or bath. Grave cases of hyperpyrexia are put into tub baths until cerebral symptoms and pulse quality and character improve. Treat the eruption with some bland oil, combined with carbolic acid, eucalyptol, or ichthyol.

For nephritis in serious cases, diaphoresis as rapidly as possible in cases where headache, vomiting, stupor, convulsions, and suppression exist. Hot tub bath followed by wet pack, hot drinks, and Dover's powder. Copious draughts of water while patient is in wet pack. Nitro-glycerine, $\frac{1}{500}$ to $\frac{1}{200}$ grn., every two hours.

Diphtheria is a complication, but rarely spreads to larynx. Nearly always goes into nasal passages.

Rheumatism is to be treated with salicylates.

The arthritis resembles gonococcal arthritis, clinically, except that there are great heat and redness. Treatment: Cold locally, followed by pressure and passive movements later on.

Treatment of Tetanus Poisoning by Injections of Phenol

Following a suggestion of Babes, that injections of phenol were curative in cases of artificial tetanus in animals, and that the serum of phenolized animals was also antitetanotoxic, the author, P. Muzio (*Gaz. Med. di Torino*, Jan. 14, 1897), was led to make a series of experiments along this line.

His results were almost entirely negative, and he seeks to explain Babes' positive results on the ground that the culture of tetanus used was non-virulent.

His conclusions were:

1. Animals poisoned by tetanotoxin, and treated by phenol, succumbed to the minimal doses, the phenol seemingly having no effect.
2. The serum of animals treated with phenol showed no power to neutralize the poison of tetanus.

Voice Culture and Electricity

Dr. William Harvey King considered this subject in a paper read before the National Society of Electro-Therapeutists, in September last (*Electricity*), and tells us of the beneficial and pecular power of electricity for the development of human singers. The points Dr. King sets forth are both interesting and instructive. All the different functions of the vocal cords, which make the notes of the voice by vibrations, are controlled by muscles, the quality and power of the voice depending on the strength, quickness, reaction, power, and endurance of these muscles. The crico-thyroids stretch the cords to make the high notes, while the arytenoids and the crico-arytenoidi lateralis shorten them again; each set of muscles being operated through its own nerve.

"Electricity, whose power to develop latent muscles is well known, can develop the muscles that work the vocal cords, by being applied to their nerves. The electrical stimulus is placed on the neck, over the appropriate area. Vocal cords and their muscles which have worn out can be rejuvenated, and such bad voices as are produced by a weakness of one song muscle over another can be largely remedied."

Diphtheria Treated with Antitoxin

At a meeting of the Medical Society held at Frankfort-on-Main, Germany, on Nov. 16, 1896, Dr. F. Cuno reported the results obtained from antitoxin, in the treatment of diphtheria, since October, 1894.

According to his investigation, the death-rate from diphtheria in that city has been reduced from 39.4 per cent. in 1889, 36 per cent. in 1890, 32.6 per cent. in 1891, 33.8 per cent. in 1892, 43.8 per cent. in 1893, 36.4 per cent. in 1894 (to September 30), to 10.5 per cent., or 7.03 per cent., if those cases be excluded which came to the hospital in a dying condition. No local treatment was resorted to in any of the cases. Of 483 cases under his observation, seventy-six children had cardiac debility, which required several days' active stimulation. The latter cases were very malignant in character, and would have died, had it not been for the antitoxin. With the exception of the formation of abscesses in eight children, at the point of the serum injection, no other complications were met with.

Efficacy of Subcutaneous Calomel Injections in Laryngeal Syphilis

A case is reported by Mosca (*Arch. Ital. di Laringol.*, XVI), which demonstrates the efficacy of subcutaneous injections of calomel. Seven and one-half ctg. (1⅛ grn.) were injected daily; then an interval of several days was allowed to elapse before the injections were renewed. The patient upon whom tracheotomy was to be performed, was dying of asphyxia. Other treatments, even subcutaneous injections of sublimate, had previously been resorted to without success.

The Radioscope in Intrathoracic Lesions

In a recent communication to the Paris Academy of Sciences, Dr. J. Bergonié stated that he had repeated, with complete success, Professor Bouchard's recent experiments on the application of the Röntgen rays to the diagnosis of pulmonary tuberculosis and intrathoracic lesions. The various dull areas, elicited by the usual clinical measures, had been mapped out on the thorax with a dermo-graphic pencil. They were then subjected to examination by the radioscope, and a second line, dividing the light from the dark areas, was drawn in the darkness, where the first could not be seen. In this way, any error or unconscious effort to make the coincidence perfect was avoided.

In order to clearly distinguish the light from the dark areas, lead wires were also attached to the thorax, by means of collodion.

The dull area invariably corresponded to an area of a more or less complete opacity. The precision of delimitation at times was very striking.

Chronic Nephritis

Dr. J. E. Ferran, in *Arch. de la Policlinica* (Havana, Cuba), in an article entitled "A Contribution to the Treatment of Chronic Nephritis," advises a vegetable and fish diet under the following circumstances:

1. When the quantity of urine passed exceeds 800 gme. in the twenty-four hours.
2. When the urea and the density are somewhat augmented, or, at least, normal.
3. When there is increase of phosphates and phosphoric acid.
4. When the quantity of albumin is not exaggerated, nor subject to great variation. He desires to note that, in order to estimate the real quantity of albumin, he would recommend not to use Esbach's apparatus, owing to the fact that its reaction at the same time precipitates mucin, peptone, etc., which are causes of error.
5. When there is not great abundance of granular casts.
6. When the general condition is satisfactory.

Researches Upon the Human Gastric Epithelium Under Normal and Pathological Conditions

The results of the researches of A. Schmidt (*Virchow's Archiv.*, CXLIII, No. 3) may be summarized as follows:

1. The normal gastric epithelium, viewed morphologically, functionally, and developmentally, is wholly different from the epithelium of the intestine. Under normal conditions, intestinal epithelia are only of exceptional occurrence in the stomach—in the immediate neighborhood of the duodenal-epithelial margin.
2. Aside from acutely acting noxes, in inflammatory states of the mucous membrane of the stomach, the epithelium of the gastric surface is, as a rule, better preserved than the glandular cells. This is especially true of chronic inflammatory processes, accompanied by atrophy, which form island-like foci, even in otherwise slightly altered stomachs.
3. In the last-mentioned processes, the gastric epithelium upon the surface, and in the epithelial ducts traversing the atrophic areas, undergoes transformation into intestinal or intestinal-epithelioid cells.
4. The same transformation of the epithelium takes place in the neighborhood of ulcus ventriculi, in the peculiar proliferated epithelial tubules described by Hauser.
5. The cause of the transformation of the epithelia in both varieties of cicatricial formation, and its physiological significance, are at present unknown.
6. It is not improbable that colloid carcinoma of the stomach takes its origin from the intestinal epithelium tubules frequently occurring in the pathological stomach.

A Point in the Diagnosis of Fecal Impaction

In a case of fecal impaction, Gersung (*Wein. klin. Woch.*, No. 40, 1896) accidentally discovered a diagnostic sign, which he was able to verify in two other similar cases, and which may well be helpful to others under similar circumstances.

He found that if firm pressure be made with the fingertips against the mass of feces, and if then the fingers be slowly and carefully withdrawn, a peculiar sensation is perceived, which is called by him the "phenomenon of unsticking." The sensation is said to be the same as that received when the fingers are smeared with grease, pressed against the opposite palm, and then slowly withdrawn.

To obtain this sensation, the mucous membrane of the intestine must be somewhat dry, the fecal tumor must be of such a character as to dent upon pressure, and there must be gas enough present to cause the intestinal wall to resume its former position as soon as the pressure is relieved.

Hydrotherapy in Pneumonia and Broncho-Pneumonia of Children

Dr. Martinez's conclusions may be thus summarized:

1. In unison with agents specially indicated, such as tonics, stimulants, emetics, etc., no treatment is more rational or efficacious than the hydrotherapeutic in the bronchitis or pneumonias of childhood.
2. The manner in which the different forms of hydrotherapeutic applications act, is nearly the same. Cold baths are more antithermic, the lukewarm are more innocuous. All of them, at present, constitute insuperable therapeutic elements.
3. Lukewarm baths find application in

the great majority of cases, as well as the moist application. The cold bath should be employed with more moderation, always taking into account organic or functional disorders of the heart and nervous centers, in which cases they should be contraindicated.

Resolvent Ointment for Mumps

Tranchet recommends the following:

Ichthyol	45 grn.
Lead Iodide	45 grn.
Ammonium Chloride	30 grn.
Lard	1 oz.

Apply to the swollen parts 3 times a day.

Bronchitis Treated with Belladonna

Reminded by Dr. Sidney Ringer's statement, recently made, as to the value of belladonna in oversecretion, Dr. Frank Shearer gives, in the *Brit. Med. Jour.* (Jan. 9, 1897), an account of a case of diphtheria followed by distributed paralysis, where emaciation became extreme, right lung was collapsed, large moist râles prevailed, and hope was nearly extinct, when he thought of the physiological action of belladonna, and commenced to give 10 drops of the tincture every four hours, with gradual improvement and ultimate complete recovery. He always employs it with benefit in cases of suddenly developed capillary bronchitis.

Dispensary Practice

Other countries as well as the United States feel the injustice done the medical profession by a rank system, or lack of system, regulating dispensary practices. In Ireland a system, in which tickets are given by the Poor-law guardian, or the dispensary committee man, to the "destitute" poor, is in vogue. While this is far in advance of any method employed in and about New York, it is far from effectually checking the impositions practiced daily.

The dispensary doctor in Ireland is paid for his work; but otherwise his condition is similar to that of his brother practitioner in this country; and the following proposition, made in the *Brit. Med. Jour.* (No. 1879), by Dr. J. Sterling Greer, might, with a few alterations, be applicable to our own needs:

1. That a register of families entitled to free medical relief in each dispensary district be made out in alphabetical list of townlands, residents therein to be alphabetically arranged. Heads of families only to be registered.

2. That any persons desiring to have their names inserted on such list at any time may apply to the Poor-law guardians of the division in which the townland is situated, and such Poor-law guardians shall thereupon bring such name before the next meeting of the Board of Guardians of the union by a note in writing giving the name, residence and valuation, description and occupation of the person so seeking to be put on the list, and, if the Board shall so order, the name shall be inserted on the list, and the medical officer shall be notified of such addition by the clerk of the union.

3. That the list of each dispensary district shall be made out by the clerk of each union before the day of...... ....in each year, and a copy transmitted by him to the medical officer in each district.

4. That the medical officer shall attend free members of families appearing on the register in the same way as if a red ticket from a Dispensary Committee member had been produced.

5. That the fees to be demanded by and payable to a medical officer for attendance upon a number of families not upon the register, and whose holdings are under £10 valuation, shall not be more than 2s. 6d. for each visit where they reside within two miles radius of the dispensary, or from 3s. 6d. to 5s. when they reside beyond that radius.

6. That there shall be no limit of valuation for who shall be entitled on application to be inserted on the register for free attendance from the medical officer, providing it shall be made clear to the Board of Guardians that from the circumstances of the applicant they are unable to obtain proper medical attendance otherwise.

7. That the families returned yearly by the clerks of unions on the register to the medical officer shall be those whose valuations are under £3 or such other families as have been theretofore placed on the list by order of the Board of Guardians.

8. That it shall be the duty of the Poor-law guardians and the medical officer to facilitate the registration of families who may be entitled to be registered.

Should any person be improperly registered, it shall be the duty of the medical officer to report the same to the Local Government Board.

Absorption and Excretion of Iron in the Intestinal Canal

H. Hochhaus and H. Quincke (*Arch. f. expt. Path. u. Pharm.*, XXXVII, Nos. 2-3) state that the iron administered medicinally to mice is exclusively absorbed in the duodenum, and partially transmitted by the lymphatics to the mesenteric glands; perhaps part is absorbed by the blood vessels.

Probably the so-called "iron of the food" is also absorbed in the same locality (guinea-pigs, rats).

In the iron preparations administered (carni ferrin, ferratin, ferro-peptonate, ferrum hydricum), a difference of absorption was not recognizable. Very large doses of iron, in the form of iron oxyhydrate, caused disturbances of nutrition; in the form of carni ferrin this was not the case.

In the mouse, frog, rabbit, and guinea-pig, the excretion of iron takes place through the cecum and colon; though the different portions of the intestine appear to participate in excretion in variable degree, according to the species of animal.

Excretion appears to occur in temporary and local thrusts, by means of migration of leucocytes and desquamation of epithelia.

NEUROLOGY AND PSYCHIATRY

Pain

S. V. Clevenger, M. D., in an article in the *Jour. of Amer. Med. Assoc.* (Jan. 30, 1897), asks: "What is pain?" and writes: "To the philosopher, and especially to the physiologist, the nature of pain has a significance unknown to those not given to such analysis." Consciousness is requisite to appreciation of pain as well as any other feeling. To suppress or blunt consciousness is to do the same with pain. As consciousness (i. e., cognizance) of pain is a cerebral process, solution of continuity in the route to the brain by which pain is brought to consciousness, removes the pain, but not the cause of it. Pain alleviators may be but deadeners of sensation. Schopenhauer holds that pains are positive, and pleasures negative experiences, and that the latter are but the absence of the former. "Susceptibility to painful impressions increases with development of the nervous system in the ascending scale of life from lower animals to man and in the ratio of intellectual growth, and enjoyment is correspondingly multiplied and intensified."

"Major anesthetics act upon pain by extinguishing consciousness in general; other chemicals arrest pain consciousness alone." The philosophic claim that pleasure is due to absence of pain, finds illustration in the universal prevalence of care (a state of pain) and the fool's paradise which the drunkard creates by his anesthetic alcohol. Again, in paretic dementia there are both physical and mental anesthesia—tactile sense gone and care gone. Hence the feeling of well-being and the "delusion of grandeur." "So paretic dementia and the complacent megalomania stage of paranoia may be put in the category of pathologic mental anesthesias."

Many bodily functions are unfelt (i. e., uncognized) until some fault in their process brings pain.

Interference with customary nerve action may cause pain. What costs least effort is least cognized; therefore, changes in usual experiences cause more effort, need more energy and harder work on the part of the heart and vessels—more heat, more tissue waste, more repair. Thought costs, in the same way, by wear and tear of cerebral tissues; so do worry, grief, and anxiety, which have in them the constant menace of pain, as relaxation has the promise of pleasure. But, as life itself is activity, whether in rest or in labor, we may not draw an exact line between pleasure and pain.

To maintain nerve function, conduction must be perfect, pressure normal, heat constant, nutrition suitable in quality and quantity. If nerve continuity is interrupted, if the nerve is pressed, overheated, or the blood supply is poor in nutrition, pain may be the expression. But great organic destruction may go on, as in the liver or brain, without pain to remind of the danger, while a clamorous toothache may make a great hubbub over a trifle.

"Hunger is a pain which disappears in extreme starvation. Freezing may be painless, whereas warmth restoration may cause acute pain."

Stimulants may increase intellectual or sensory faculties. Sedatives usually diminish mental pain, as they do physical. Here, also, the line of demarkation is not definite. The special sense nerves are by some physiologists excluded from among conveyors of pain; but intense light, disagreeable sounds, odors, and tastes are very like tactile pains, induced in much the same way.

Several factors often enter into the creation of pain, and the withdrawal of one of these may modify or relieve pain, as when a professor failed to feel a cinder in his eye until he had finished his lecture, the lecture acting, by derivation, much as a blister, hot foot-bath, or cathartic, would relieve by reducing circulation in the painful part.

Accepting the theory of "pains as positive experiences," and "pleasures as negative experiences," would account for the false happiness of dementia and megalomania while the brain was being destroyed; it would account for the *spes phthisica*, "through blunted pulmonary afferent impressions." Again, "in anesthesia or absence of sensation, we have the reverse of pain, and the thoughtless are gayest and freest from care."

Pain may be pleasure. The melancholy of lovers is "sweet pain," like that of poets and artists. Spencer thinks the pain of deserving more than one gets is pleasurable.

Depression of vital functions is involved in ordinary pain. Melancholia is a "psychical neuralgia."

Aristotle coupled pleasure with what is beneficial, and pain with what is detrimental; but it is not a universal rule, for pain may be the best life-conserver, and *vice versa*.

Susceptibility to pain may persist in spite of anesthesia, though loss of pain is usually produced by loss of sensation. In locomotor ataxia, anesthesia and the terrible shooting pains co-exist.

In the author's "Comparative Physiology and Psychology" (1884), he detailed reasons for a "nutrient reflex," by which blood was summoned to parts in immediate need of it.

It consisted of intimate association of cerebro-spinal with vaso-motor nerves, as seen in the *rami communicantes* from the spinal to the sympathetic system. These, by affecting the blood supply, explain the phenomena of hysteria, the cerebral centers being anemic at times, causing aphonia, deafness, blindness, urina spastica, etc.

Toothache from alveolar abscess is helped by derivation of blood, and rendered more painful by increased congestion, and relieved again by evacuation of the abscess, showing that pressure aggravated the pain. When pain is relieved by a mental impression, it can best be accounted for through derivation; and an anemic headache may disappear on lying down, or by heart stimulation. The circulation participates in pain either as a cause or a consequence.

That "pain is the cry of the nerve for purer blood," is true in a restricted sense; it may be a cry for less blood also. Headache from bad air is a toxemia, ordinarily relieved by fresh air. Meningeal headaches are relieved by reducing the blood supply. Lifting a paining stump will often relieve pain in it, by derivation of blood.

Irritation of nerves causes feeling of comfort, as in scratching; but mechanical, chemic, thermal, and electric stimulation may cause pain if above a certain limit. Varieties of pain are in proportion to the intensity of the stimulus. The differences described by the words "piercing," "shooting," "cutting," "gnawing," etc., are due to the intermittent or continuous molecular changes in nerves or their centers, but throbbing or dull pains usually come from congestion. Angio-paralytic headache is often relieved by pressure on the carotid, and the angio-spastic by amyl nitrite. In inflammatory skin affections, a breath of air, or light touch, will sometimes cause pain, the blood supplied to the nerve terminals being over-abundant.

The structural commotion recognized as pain can only be maintained by blood presence, as nutrition is necessary for prolongation of any vital phenomenon. If the amputation end of a nerve is relieved of blood, by gravitation or pressure, the pain is lessened. The numbness of freezing depends upon the constriction of blood-vessels. Inflammation of a spinal nerve root, or in the sensory neuroglia of the spinal cord, causes the lightning pains of neuralgias, ataxia, and sciatica. All the hyperemic, congested, or inflammatory cerebro-spinal disorders, such as some headaches, toothaches, neuralgias, ataxic pains, overheating, hyperalgesias, and hyperesthesias are among painful states associated with too much engorgement of nerves or their centers.

The opposite condition of relative bloodlessness occurs in cold, hunger, thirst, fatigue, pressure, anemic headaches, and other painful states depending upon reduced blood volume.

Blood-poisoning by alcohol, septic matter, gases, uric acid crystals, sodium urate, etc., reduces the quantity of pure blood, or, in the case of the foreign substances, irritates the nerve centers.

"In short, all painful states may include the conditions of *irritation, too much nutrition*, and *too little nutrition*, separately, or combined in various ways. These *pain-factors* may be symbolically represented by the initials of the words *irritation, hyperemia, anemia*, to graphically illustrate pain, however induced:

Uric acid headache : I. A.; the irritation causing the anemia.
Chlorosis headache : A. I.; the anemia causing the irritation.
Cerebral congestion : H. I.; the congestion causing the irritation.
Over-stimulation : I. H.; the irritation causing the hyperemia.

These three conditions may be combined simultaneously, or successively. Anemia in one part may cause congestion in an adjacent part, and the pressure from this may cut off nutrition, graphically represented thus, I. A.; I. H.; I. H. A."

The Conditions of Consciousness in Epileptic Attacks

According to Dr. H. M. Bannister, in the *Amer. Jour. of Insan.* (1897), the "loss of consciousness during an attack of *grand mal* is not necessarily absolute." He cites a number of cases to show that consciousness may be partly or fully retained, and concludes:

1. That the epileptic discharge in the cerebrum may in some cases not involve all, or to any extent, those organs or parts concerned in psychic function, so as to seriously affect or abolish consciousness.
2. There may be states of epileptic double consciousness, as it may be termed, in which it cannot be said that the mental functioning in the abnormal condition is less perfect and complete than in the normal state.
3. The post- (or pre-) epileptic outbreaks of violence, while attended with excessive irritability and loss of control, and generally with a failure in the higher moral inhibitions, need be accompanied with no more impairment of consciousness than would naturally be caused by intense emotional disturbance in other conditions.
4. There may be a true or apparent automatism, not attended with any loss of general consciousness, and due, possibly, to the

rapidity of some psychic reflexes exceeding the limit of the reaction time necessary to their conscious recognition.

5. The definition of epilepsy which makes loss of consciousness an essential is an arbitrary one, not supported on pathological or clinical data, either in the ordinary convulsive phase of the disease or in its psychic manifestations.

Mirror-Writing

Prof. Chas. Richet, writing to Dr. M. Baudouin in *Progrès Méd.* (Jan. 16, 1897), states that the great Leonardo da Vinci always wrote in this manner. He also states that T. Sabatchnikoff has recently edited, in Paris, a magnificent work on the flight of birds, absolutely illegible by direct reading, but very easily legible with a mirror. It is proof that men of great genius may do mirror-writing.

Sleep Experiments

According to the *Med. News,* Professor Patrick and Dr. J. S. Gilbert, of the University of Iowa, in the *Psych. Rev.*, record experiments made to determine the effects of prolonged loss of sleep. Dr. Gilbert and two of the University teachers were kept awake for four days and three nights. One suffered most on the second night; another on the third; the other experimenter was not affected. All gained in weight. The power to lift steadily decreased, and memory and power of attention were also lessened. All powers were completely restored after a sleep of eight or ten hours.

First 500 Days of a Child's Life

A very interesting and scientifically valuable article by Mrs. Winfield S. Hall, of Chicago, is completed in the January number of *The Child Study Monthly* (II, Nos. 6-8). The article carefully and systematically records the growth of the child for its first 500 days, and gives, in its minutest detail, the psychical development.

The conclusions as to the development of the senses are as follows:

1. The perception of light is the first step in the development of the sense of sight.

2. The perception of the light reflected from bright-colored objects is the second step in the development of sight.

3. The gradual development of the power of directing the eyes upon objects (fixation), indicates the course of the development of the visual perception of objects, because: (*a*) Fixation of the eyes is, in all animals capable of binocular vision, accomplished by an associated co-ordination of the voluntary muscles which direct the eyes, and of the involuntary ciliary muscles which cause the focusing of the rays of light upon the retina. (*b*) The co-ordination just cited is inherent; there is, therefore, no reasonable doubt that the formation of a clear image of an object upon the retina is coincident with the convergence of the eyes upon the object. (*c*) The psychical perception of objects cannot precede the formation of their image upon the retina, i. e., cannot precede fixation of the eyes upon objects.

4. The time when visual perception becomes relatively clear precedes the following of moving objects by the eyes, because: (*a*) This act is a voluntary one; and (*b*) the child cannot will to follow the motions of an object which it does not perceive.

5. Having established these two propositions— (I) Visual perception cannot precede fixation; (II) Visual perception must precede the following of moving objects by the eyes—it remains only to establish the dates when these two things were observed, and we shall have the limits between which visual perception of objects developed: (*a*) Fixation is definitely observed first on the twenty-eighth day. (*b*) Voluntarily following a moving object was first noticed on the thirty-second day. (*c*) Therefore, in this child, a clear visual perception of objects was established in the fifth week.

6. The differentiation and recognition of forms begin earlier and develop much more rapidly than the differentiation and recognition of color.

7. Sensitiveness to vibrations of the air was manifest on the first day.

8. Differentiation of the character of sounds, whether agreeable or otherwise, precedes the recognition of sounds.

9. The attention is held much more closely when two senses are affected than when only one is affected.

10. The effect of the broken monotony of sound is not less marked than the effect of broken silence.

The progress of the development of the emotions gives the following conclusions:

1. Fear and anger—the animal emotions—were very early exhibited.

2. Affection and sympathy—the higher emotions were much later developed.

3. Compassion—one of the highest emotions—did not appear until near the close of the five hundred days.

4. Fear being in every case allayed or dispelled, came to be seldom exhibited.

5. Outbursts of anger, being in no case allowed to avail anything, were very infrequent.

6. Sympathy and affection, being always encouraged, grew rapidly and became habitual.

SURGERY

GENERAL

Tetany

According to Howard A. Lothrop, in the *Boston Med. and Surg. Jour.* (CXXXV, No. 21), the salient points in tetany are :

1. Recurrent attacks of tonic spasm of certain symmetrical groups of muscles, preceded and accompanied by certain sensory disturbances. Typical position of hand in *main d'accoucheur.*
2. Increased mechanical excitability of the motor nerves, particularly the facial. (Chvostek's phenomenon.)
3. The possibility of inducing the spasm in the arms by nerve pressure. (Trousseau's phenomenon.)
4. Increased excitability of the nerves.
5. Sudden cessation of all these symptoms.

The direct causes are unknown. The predisposing causes are as follows :

1. Idiopathic ; sometimes in epidemics, as in Prague, Vienna, or Paris.
2. Chronic gastro-intestinal disorders.
3. All acute infectious diseases.
4. Chloroform inhalations ; use of alcohol or ergot ; uricacidemia.
5. Pregnancy.
6. Total thyroidectomy.
7. (Omitted by the writer—Rachitis.)

Pathological anatomy. The symptoms are best explained on the basis of central origin, namely, in the anterior cornua of the medulla oblongata and the cord. No known lesion has yet been discovered in these places.

The prognosis is excellent in the endemic type. In the cases following thyroidectomy, it is serious. Out of twenty-eight gastric cases, eighteen died.

Molding of the Superior Maxilla in Adenoid Vegetations

According to *Rev. Hebdom. de Laryng., d'Otol., et de Rhin.*, Körner, in 1891, drew attention to the particular change of form which takes place in the upper jaw, at two different periods. When adenoids obstruct the nares during the first dentition, elevation of the palatine vault is produced, along with a sudden retardation of development in the whole upper jaw ; the transverse diameter is shortened, and the longitudinal lengthened.

After the second dentition, the following changes are added to the above : The bony palate becomes still more elevated ; the alveolar borders approximate still closer, and the maxilla seems to be compressed laterally, producing an angle at the median line ; the two middle incisors turn their lingual surfaces toward each other, and a transverse section of the maxilla assumes an oval form. In nasal obstructions, of other origin, the secondary changes of the maxilla are not like these—the angle of the median line and the V-position of the middle incisors being exclusively found with adenoid vegetations.

These changes are denied to rickets, because those due to rickets are found in parts of the body in full development. This occurs in the cranium in the first years of life, whereas the molding of the superior maxilla from adenoids occurs most often after the second dentition. Besides, rachitic anomalies occur only on the *lower* jaw, while nasal obstruction changes due to adenoids are limited to the *upper.*

Finally, Rosenberg, in 1895, pointed out the frequent absence or decadence of the *lateral* incisors in these cases. Reyntjes has seen a case of elevated palate without adenoids. Bloch found elevated palate related to modification of the lateral cavities ; but, along with Sikkel, maintains that the median line angularity presents only with adenoids.

Some Plain Rules for Operating in Appendicitis

In what may be considered a very conservative article, as emanating from the pen of a surgeon, Dr. Shrady (*Med. Rec.*, Jan. 9, 1897) lays down the following rules, which may be taken as a safe guide by the général practitioner in deciding whether to operate or not in cases of appendicitis:

1. A continuously frequent or progressively accelerated pulse is of itself, even in the absence of any other dangerous symptom, an indication for operation. The actual number of pulse beats is not of so much account as their tendency to increase, although the rule laid down by Willy Meyer, to operate when the pulse reaches 116-120 per minute, is generally a trustworthy one.
2. Pain, localized and progressive, is a valuable associated condition. When pain is sudden, severe, and progressive, and accompanied with chill, it means perforation or rupture of the abcess and demands immediate operative interference.
3. Increase of temperature is third in importance ; but when associated with one or both of the previous symptoms, especially the first, it makes immediate operation a foregone conclusion.
4. The gradual subsidence of the three

cardinal symptoms—pulse rate, pain, and temperature—is a legitimate reason for postponing operative interference.

5. In cases of abscess it is generally safer, while watching for urgent indications, to wait until adhesions have formed a sufficiently protective wall.

6. The danger of recurrence is not by any means as great as the extreme advocates of operative interference would make us believe. Patients do recover after a first attack and remain well for an indefinite period ; when a recurrence does take place, it is then time enough to operate, and the operation should be done preferably after the acute attack is over, when the tissues are not in an inflamed condition.

While these rules hold good for the general run of appendicitis cases, there can be no question as to the necessity of immediate operation in the so-called fulminating cases. But then the symptoms in the latter class of cases—the sudden agonizing pain, first localized and then becoming general ; the rapid thready pulse ; the pinched face ; hurried, grunting respiration ; increased temperature and abdominal distention, are of such grave significance as to leave no place for arguments.

Resection of Nearly Eleven Feet of Small Intestine in a Boy

Dr. Ruggi reports, in the *Canada Pract.*, the case of a boy who sustained a blow on the abdomen by the car of a large swing, throwing him a distance of forty feet into the water. The patient had slight abdominal tenderness for two weeks. About this time he presented signs of obstruction. Abdominal section was performed and it was observed that a loop of intestines was constricted by a band of omentum. The patient improved for a while ; the evidences of obstruction again returned in a more energetic type, the wound having to be reopened. At the point where the band of constriction was divided, there was stenosis of the intestine. After having corrected this condition, the child obtained relief, but still complained, as he had before the operation, most bitterly of hunger, crying night and day, notwithstanding the fact large quantities of food were given, besides rectal feeding. He again had obstructive signs, and it was decided to open the abdomen again. There was found adherent to the abdominal wall a large mass of intestine. On making attempts to free this, it was observed that a great part of the bowel had been stripped of its mesentery. Dr. Ruggi determined to resect these portions, and removed successively ten feet nine inches. The lowest incision was six inches from the ileo-cecal valve. Silk sutures were employed to bring the ends together. A few days passed and the boy again cried for food. The hunger diminished gradually, and at the end of five weeks he was discharged cured. At the time of report, fifteen months later, he was in the best of health.

Recent Advances in Rectal Surgery

In a paper read before the Nashville Academy of Medicine, November 19, 1896 (*Mathews' Med. Quar.*, IV, No. 13), the author, Dr. A. B. Cooke, treats this subject in a most able manner. He considers the most notable advance rectal surgery has ever made, is the change it has undergone in the estimation of the profession. Barriers of sentiment have been swept away, and disdainful discrimination as to the comparative importance of organ or function merely argues that the professional *cad* is not yet wholly extinct.

We now recognize that every pain referable to the rectum and vicinity is not necessarily produced by " piles "; that constipation is not always due to " torpid liver "; that diarrhea in its most intractable form frequently springs from and is maintained by a rectal lesion, and that dysentery, especially the chronic form, is often falsely so called.

We have learned that the reflex nerve impulses emanating from the ano-rectal region are incomparably more powerful than those from any other source, and that they may and do manifest themselves in a great variety of complex phenomena. We have also discovered that these reflexes, though, as a rule, pathological in expression, admit of wide utility as therapeutic agents.

In speaking of resuscitating the stillborn, the writer says that a sufficient number of well-authenticated cases are on record to warrant the statement that in many of these conditions, also, divulsion of the sphincter ani offers the speediest and most effective means of resuscitation. He very truly states : " That person is dead indeed whose cardiac and respiratory center will not respond, at once and vigorously, to the stimulation of a suddenly stretched sphincter."

Constipation, says the author, is perhaps the most universal, and certainly, in many cases, the most unconquerable of all diseases. We have awakened to the fact that this is not the simple and harmless condition it was once regarded to be ; and with a broadened knowledge as to its complex nature and wide-reaching effects, we have come to realize its great importance. We now understand that, while in some cases it is merely a symptom, it is usually entitled to be regarded a disease and treated as such. The cholagogue-purgative-enema method of treatment has been to a large extent abandoned, and measures substituted which are based on the more scientific idea of removing the cause. Among these measures may be mentioned regulation of diet, attention to the hygiene of defecation, and abdominal massage. The recognition of constipation as the primary cause of a large majority of rectal diseases makes a genuine and very important advance in rectal surgery.

The barbaric method of treatment instituted by Maisonneuve about the middle of the present century has been practically discarded. It consists in introducing the hand into the bowel, closing the fist, and suddenly withdrawing it. Now, when divulsion is indicated, it is accomplished gradually and cautiously under the relaxing and humane influence of general anesthesia.

We have learned that even the most refractory cases of rectal ulceration are curable if one unvarying rule is established and rigidly enforced. That rule is *rest*—absolute rest in the recumbent position. This point gained, the victory is half won. Rectal surgery has kept pace with the rapidly changing steps of modern progress. If an exception exists, it is in reference to the treatment of internal hemorrhoids. Except as modified in method and improved in technique, the treatment of this disease is the same to-day as in the time of Hippocrates.

He refers to the method most generally employed—the ligature operation. The clamp and cautery treatment, devised by Smith and applied to the treatment of hemorrhoids, is of comparatively recent origin, and by many advocates is thought to mark the most signal advance rectal surgery has ever made. The writer believes, however, that no real advance has been made in the method of treating internal hemorrhoids within recent years.

The present treatment of rectal fistula has little that is novel to offer. Within narrow and well-marked limitations, the operation known as Lange's may be regarded an improvement. The question of the relationship between fistula and tuberculosis is still *sub judice*. The tendency, however, is strongly toward advancement.

With the aid of the microscope, differentiation between benign and malignant rectal conditions is now a matter of accuracy, and cases formerly regarded as hopeless and allowed to drift onward, without intervention, to destruction, are constantly being relieved and redeemed. Referring to the benign variety, dilatation, rapid and gradual proctotomy, Kraske's operation and colotomy are the more important resources now at our command. In this field modern surgery has made some of its most brilliant achievements.

If there is any single principle which has contributed more than others to the elevation and advancement of this branch of our science, it is to be found in the recognition of the necessity of thorough physical examination in all cases of rectal disease. Improved instruments and methods of examination have rendered possible the utmost accuracy of diagnosis.

Penis Divided by Silk Suture

Dr. J. C. Kennedy, in the *Brooklyn Med. Jour.* (Dec., 1896), cites the case of a boy 14 years old, giving the following history: The patient was troubled with nocturnal incontinence of urine, and as he had frequently been reprimanded, determined to use radical measures in order to avoid soiling his night-robe.

The patient applied a double ligature of medium-sized silk over the urethra and around the penis, to prevent the escape of urine. On the following morning the organ was twice the natural size, and the ligatures were buried out of sight. He suffered a great deal until the ligatures cut their way through the urethra. At this occurrence the symptoms of retention were relieved. He was soon obliged to take to his bed, owing to the violent inflammatory symptoms that took place.

Dr. M., who was sent for, advised the patient's removal to St. Catherine's hospital, where the following conditions were observed: Urethra cut through; left corpus cavernosum severed; right corpus cavernosum almost separated. The glans penis and its accompanying extremity presented a comparatively healthy color, and it was surmised that in this thread of union was inclosed the dorsal artery of the penis. Wet dressings were applied, and the organ was supported until healing was completed. A sound was passed into the bladder, under the anesthetic; the extremities of the urethra dissected out, and a circular piece taken from each; then sutured with very fine silk. The left corpus cavernosum brought into opposition the extremities of the right, up to the film which held them together. The corpora cavernosa were stitched through the edges and brought out through the integument.

A soft No. 7 female catheter was left in the bladder for several days. The dressing was not removed until the end of a week, at which time union was complete.

EYE, EAR, NOSE, AND THROAT

Study of the Ophthalmic Conditions in a Case of Cerebellar Tumor

In the *Univ. Med. Mag.*, Oliver reports a case of a male aged 38 years, with the history of an injury of the head received seven years before. Beneath the under surface of the cerebellum there was an oblong tumor 5½ ctm. in length and 2½ ctm. in breadth at its widest part. The growth sprang from the under and external surface of the middle cerebellar peduncle and projected outwardly between the pons varolii, the medulla oblongata and the right cerebellar lobe. The spinal cord, which was edematous, gave evidences of degeneration of its lateral columns. The tumor was a glio-sarcoma undergoing cystic degeneration. This case is of interest, not only upon account of the usual history of trauma and the characteristic general symptom of cephalalgia, mostly in the region of the occiput, but the vertigo, the ataxic gait, with exaggerated patellar-tendon reflex; the tonic convulsive movement of the head and trunk to the right; the high grade of optic neuritis; the almost absolute blindness, usually typical of sub-tentorial pressure; the shape and position of the field remnant in the left eye; the nearly total internal ophthalmoplegia; all make an ocular picture that is eminently of value in the determination of the situation of intracranial growths.

Choroidal Sarcoma—A Series of Cases

Geo. F. Fiske, M. D., reports in the *Amer. Jour. of Ophth.*, as quoted by the *Jour. of the Amer. Med. Assoc.*, five cases of choroidal sarcoma, two of which proved fatal—one evidently as the result of a recurrence of the neoplasm in other parts of the body; the other as probably due to the same cause. In such cases the questions to be considered are:

1. That of early diagnosis between ordinary separation of the retina and the separation of the retina which is caused by a tumor behind it.
2. As to whether enucleation shall be advised in cases where the diagnosis is not certain.
3. The importance and duty of assisting one another by giving to each patient, in all cases of doubt—i. e., in almost all cases of ablatio retinæ—full notes and sketches for use when patients consult other specialists, which they usually do.

First, as to diagnosis: This is often easy when the tumor can be seen, or where glaucomatous symptoms, or inflammations of the ciliary body, have presented themselves; also, where the separation follows extreme myopia, or a blow, or injury, or seasickness. Where the separation is slight and occurs in the upper half of the field, the tendency of the sub-retinal fluid to seek the lowest level will often assist the diagnosis, and in some cases drawing off the fluid with a hollow needle and syringe will clear up that doubt, even though the separation is not cured by that means.

The importance of early diagnosis is greatly increased by the fact that these choroidal sarcomas almost always occur as primary, and not as metastatic sarcomas. The author has not found in literature a single case of sarcoma, or melano-sarcoma, occurring as a metastasis following sarcoma in some other portion of the body. On the other hand, particularly in the case of melano-sarcoma, metastases in other parts of the body, following the sarcoma in the eyeball, are very frequent and fatal.

Second, as to indications for an operation in cases of doubt, Dr. Fiske would suggest enucleation be advised where (*a*) the vision is irrevocably destroyed, and there is doubt as to the presence of a tumor: (*b*) where, though there is slight vision present, it is failing rapidly, through extension of the separation, and there is no previous examination by colleagues, excluding the presence of a tumor, with no good reason for excluding it from the history of the case; (*c*) where glaucomatous symptoms show themselves, or cyclitis, or irido-cyclitis.

Hysteric Deafness

Cipriani describes a case of this nature, in which a permanent cure was obtained by simple suggestion, notwithstanding the fact that every indication suggested rheumatic deafness from exposure. The patient, a healthy peasant, 44 years of age, was free from any neurotic tendencies.

Dr. Cipriani, says the *Gaz. deg. Osp. e delle Clin.*, advises, before commencing a more serious course of treatment, treatment by suggestion when any unusual case of deafness presents itself, with a record of intermittency.

Aphakia and the Röntgen Ray

The Röntgen ray (*Presse méd.*; ref. in *Rev. gén. des Sci.*) is not visible to the normal eye, but it has been noted that removal of the lens renders it visible. A child having monocular aphakia was submitted to the *x*-ray, her head placed in a wooden box, on which the ray was directed from the outside. The sound eye perceived nothing but darkness; with the eye from which the crystalline lens had been removed, the space seemed to be filled with light, and she could clearly see the outlines of objects, through the walls of the box, that intercepted the ray.

Trachoma Treated with Injections of Permanganate of Potassium

In a paper read before the Pan-American Medical Congress, held at Mexico City, Nov., 1896, Dr. Juan Santos Fernandez, of Havana, Cuba, advocates injections of permanganate of potassium into the fornix, which adds another method of treatment for this troublesome and unmanageable affection.

These injections seem to be attended with severe pain, which, however, may be modified by the previous instillation of cocaine.

Corneal Measurements After the Extraction of Cataracts

Pfingst, in the *Archiv. of Ophth.* (XXV, No. 3), reports the result of his examinations; the first were made two weeks after the extraction. Total number of cases, fifty-nine; total astigmatism equal to 455.25D.; average of astigmatism equal to 7.7D. Comparing these at the end of four weeks, we find a marked diminution in the astigmatism. The corneal curve does not change after the fourth month, as a rule. Recapitulating, we find: (1) Two weeks after the extraction, there is corneal astigmatism from 1.75D. with the rule, to 22.D. against the rule. (2) That the greatest amount of the astigmatism disappears in the four to six weeks following the operation. (3) Then it is slowly reduced for six months, after which it rarely changes.

Strictures of the Eustachian Tube Treated by the Galvanic Current

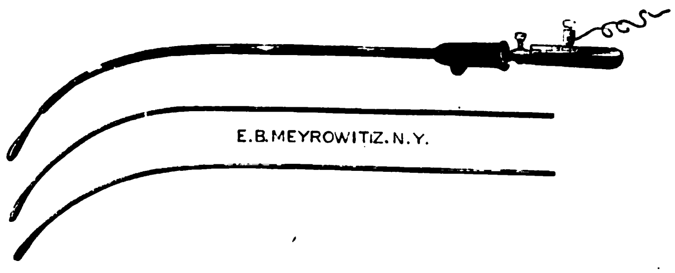
Dr. Arthur B. Duel, in an article in the *N. Y. Med. Jour.* for Jan. 16, 1897, says that one of the chief causes of deafness and tinnitis aurium is the narrowing of the lumen of the Eustachian tube by hypertrophy of the submucous tissues surrounding it, thereby preventing the maintenance of the normal air pressure behind the tympanic membrane.

In cases where the tube is still of sufficient patency to allow the passage of air and medicated vapors into the tympanum, by means of the Eustachian catheter, improvement almost invariably follows. There are other cases, however, where there is such marked stenosis that catheterization gives no relief. In such cases improvement can only be obtained after overcoming the constriction.

The author recommends the following method: For the purpose of conducting the current, he has had four copper bougies, varying from No. 3 to No. 6 (French scale), mounted on No. 5 piano wire. These are passed through small, insulated, pure silver catheters, and drawn back until the bulging portion of the bougie fits tightly in the mouth of the catheter.

The catheters are insulated by drawing their rubber tubing over them, or by winding with silk, and afterwards coating them with shellac. At first, rubber catheters were employed, but they bend less readily to fit different patients, and are not stiff enough.

The other end of the wire is fastened an inch and a half from the funnel-shaped end of the catheter, to the handle which connects it with the negative pole of the battery. The positive pole is connected with the patient's hand by means of an ordinary contact electrode. The battery should be supplied with a perfect rheostat and milliamperemeter.



Catheter for Treating Strictures of the Eustachian Tube

The bougie is passed through the tube in the usual manner, the tip being pushed forward until it is felt to be obstructed by the stricture. The current is then slowly turned on until from two to five milliamperes are used. It is never necessary to use more than this, and probably the best results are obtained by a longer contact with a small amperage than vice versa.

After a contact from two to five minutes, the bougie is felt to pass on through the softened stricture with a slight pressure.

The bougie is then slowly withdrawn, and the current gradually turned off before removing the catheter. The current should never be opened or closed suddenly.

OBSTETRICS AND GYNECOLOGY

Ventral Position of the Patient in the Performance of Version

After an experience of eight years, Dr. Mensinga (*Centralbl. f. Gyn.*, XX, No. 23) recommends that, whenever version is required, the patient should lie face downwards upon the bed, or operating table. The reasons given for this conclusion are as follows:

1. The pelvic aperture is directed upwards, instead of downwards, as is the case in the dorsal position; the operator, therefore, has more room for the necessary manipulations.
2. The arm of the operator is continually pronated, and the muscular sense is, in consequence, much more reliable.
3. While lying upon the belly, the weight of the body, combined, if necessary, with pressure upon the sacrum, by the nurse, will press the cervix further into the pelvis, thus shortening, and at the same time widening the vagina, increasing the ease of access, and enlarging the space for manipulation.

This method will probably commend itself to obstetricians, especially in the country, where hospital facilities are difficult to procure.

Treatment of Vomiting of Pregnancy by Orexine

Dr. Rech, of Cologne, in the *Centralbl. f. Gyn.* (No. 33, 1896), reports the following case of severe hyperemesis, which was cured by orexine.

The patient, a 23-year-old primipara, was first seen in the fourth month of pregnancy. From the beginning she had suffered from vomiting, which came on regularly every morning. During the third month the trouble increased, in spite of rest in bed and repeated doses of tincture of nux vomica, potassium bromide, chloroform with tincture of iodine, and codeine. Her nourishment was interfered with, and her weight fell from 104 to 88 pounds. During the fourth month the vomiting became even more severe, occurring every hour or two, although nothing was given by the mouth except the medicine. An attempt was made to keep up her strength by nutritive enemata, but after three days the patient was found to be gradually losing ground; the pulse was 138, and the vomiting as bad as ever. It was finally decided to dilate the cervix and produce abortion, if necessary.

Before operating, the author had his attention called to a short communication by Frommel, on the use of orexine in the treatment of vomiting of pregnancy, in the *Centralbl. f. Gyn.* (No. 16, 1896), and gave it a trial. Doses of 0.3 gme. were given in capsules three times a day. The first two doses were vomited after a few hours, and produced no results. After the third powder, the vomiting ceased at once. The medicine was continued for three days, at the end of which time the patient had gained rapidly in weight and strength. The fourth day she was able to sit up a short time. Vomiting did not return, and at the beginning of the seventh month, when the report was made, she was feeling very well.

With the exception of burning in the mouth, and vomiting after the first two doses, the drug seemed to be harmless, although Martius and Pareuski advise care in its use, on account of unpleasant symptoms following its employment.

The author is aware that one case is not sufficient to determine the value of the drug, but the case was of such unusual character that he thinks it well worth publishing.

Normal Salt Solution in Postpartum Hemorrhage

In the Moscow Maternity Hospital, during the years 1892-5, the infusion of a 0.6-per-cent. solution of chloride of sodium was used in fifty-one cases of postpartum hemorrhage. The results are reported by S. S. Cholmogorov (*v. Volkmann's Sammlung klin. Vorträge*, No. 161, 1896). With the appearance of the symptoms of surgical anemia, one to three clysmata of from 200 to 250 c.c. were given. If the symptoms increased in severity, and the pulse became small and rapid (120 to 140), the writer has been recently in the habit of using subcutaneous injections of the same solution, in preference to the rectal injection. The injecting needle was plunged into the subcutaneous connective tissue of the leg, abdomen, or thorax, as in giving an hypodermic injection, and from 200 to 1500 c.c. were injected in all, and the places afterwards thoroughly massaged. In extreme grades of anemia, subcutaneous injection was practically without effect.

The individual cases are thoroughly studied by the author. He opposes the views of those who regard the use of normal salt solution as purely palliative, and would always follow it by a transfusion of blood. Cholmogorov believes that the patient is practically saved when, as a result of the injection, the general symptoms have improved. If the quality of the pulse is not markedly improved after the injection, for the reason that this is not absorbed, it is very questionable, whether the hypodermic or intravenous injection of blood can avail in the restoration of the patient. Owing to the few observations upon this point, the author leaves this question unanswered.

A Case of Double Uterus with Double Hematometra and Complete Absence of the Vagina

At a meeting of the Obstetrical Society, of London, the following case was related by Dr. Lewers and reported in the *Med. Press* (No. 2997):

A patient, aged 17, had never menstruated. She was led to seek advice on account of severe pain in the hypogastric region and the lower part of the back. Careful examination under anesthesia showed that the vagina was imperforate, and per rectum that there was a uterus, perhaps, a little larger than normal in a virgin of seventeen. Two years subsequently, examination showed that the uterus was definitely enlarged, and it was then decided to operate. After an incision for imperforate vagina, there was found a double uterus, each half of which was distended by retained menstrual fluid. The subsequent progress of the case was satisfactory. She menstruated regularly and was quite free from pain.

The only difficulty was to keep the vagina open. The question of a preliminary abdominal section, in the thought of the existence of a hematosalpinx, in dealing with such cases, was discussed, and, though it was not done in the present case, it appeared to the author, on the whole, to be the right course to adopt.

Electricity in Gynecology at the Howard Hospital, Philadelphia

Dr. Massey, in the *Atlanta Med. and Surg. Jour.* (XIII, No. 8), gives the result of his experience for the past eight years as follows:

Thirty cases of fibroid tumors of the uterus were under treatment for varying periods. Three tumors disappeared almost entirely by absorption, one of them so large as to fill the abdominal cavity below the navel. In eight cases there were symptomatic cure and great reduction in size. In another eight cases symptomatic cure and slight reduction in size. In two cases there was cure of the symptoms, but no reduction in size. Four cases are still under treatment, with a favorable outlook. One case showed no improvement, while three cases failed to continue the treatment. Twenty-two cases were therefore practically successful. No bad results whatever attended the treatment of any one of the cases, and practically no discomfort attended or followed any of the applications.

The author gives as his opinion, that, with the above possibilities, a surgeon is not warranted in subjecting a case of this nature to the dangers and uncertain consequences of an operation.

The conditions which contraindicate the Apostoli method, include purulent formations in the tumor, or its neighborhood, and cystic degeneration of the tumor itself.

Of sixteen cases recorded of chronic metritis, thirteen were cured, two improved, one unimproved.

Fourteen cases of chronic perimetritic inflammation are recorded, of which six were cured, six improved, two not improved.

Chronic ovaritis shows two cases cured and two improved.

Subinvolution shows seven cases all cured.

Of menorrhagia, four were cured and one improved.

Endometritis gave three successes out of four cases treated.

Of eight cases treated for post-operative pain, one was entirely relieved and three improved, four remaining unimproved.

Treatment of Retro-Uterine Hematocele

According to the *Rev. de Ther.*, Jacoubowsky (*Vratsch*, No. 37, 1896) says the indications for surgical interference can be reduced to the two following cases: First, If serious signs of suppuration in the blood-tumor supervene; second, if the tumor of considerable size remains without change for a long enough period.

For treatment he concludes:

1. True retro-uterine hematocele, in a word, presents no indication for surgical interference, and, in the majority of cases, we can limit ourselves to the expectant treatment.
2. In cases where there are complications threatening the patient's life, we must cut into the posterior cul-de-sac, but never by laparotomy. This latter operation presents no advantage, and is a much more serious procedure.

A Few Facts in Gynecology

J. Price, in the *New Orleans Med. and Surg. Jour.* (XLIX, No. 1), says that the rule with reference to disease, anywhere, of suppurative character, is that suppuration must either be encouraged to evacuate itself, or assisted to an egress.

Good surgery of the pelvis consists in

completing the work in hand, leaving nothing to require future surgical interference.

Extreme resorts are, in general, the expedients of bad surgery.

Gauze does not drain anything but mere fluid matter, the débris of any sort whatever remaining behind.

Vaginal puncture for tubal abscesses is as uncertain as can be any procedure that does not reach to the bottom of the disease.

In the presence of tubal and ovarian disease, to remove the uterus, which in a great majority of cases is not even remotely diseased, is a seeking after means to obviate bad results which could not be explained.

Double Ovariotomy Followed by Pregnancy and Delivery at Term

R. S. Sutton, of Pittsburg, in the *Amer. Gyn. and Obstet. Jour.* (1896, IX, No. 1), gives a case of a patient 28 years of age, that had been married seven years previous to her consulting him. He diagnosed it at that time (Oct. 18, 1892) ovarian cystomata.'

At the time of operation, a twenty-five pound multilocular ovarian cyst was removed from the right side, the pedicle of which was severed by the Paquelin cautery, the ligature on the stump lying close to the horn of the uterus. From the left side was removed a multilocular ovarian cyst weighing six pounds, and the cautery failing to get hot, the pedicle was severed with a pair of scissors; the ligature of this pedicle also lay close to the horn of the uterus. The retroverted uterus was brought forward, and fixed at the lower angle of the abdominal wound with two silkworm-gut sutures.

On June 10, 1894, the patient gave birth to a male child weighing 10½ pounds.

On Feb. 25, 1896, she was again delivered of a healthy boy weighing eight pounds.

The author submits, with comment, the facts concerning the case, as above recorded.

[The history of the above case, as recorded, was read at the meeting of the American Gynecological Society, May 26, 1896. At the same meeting there was read a paper by Dr. S. C. Gordon, of Portland, Me., in which he desired to place on record the history of two cases in which pregnancy followed the removal of both ovaries and tubes. The doctor believes there must have been some stroma of ovarian tissue left, and that the tube, after being ligated, must have opened at the stump, allowing the ovum to pass through, and thus reach the uterine cavity.—Ed.]

BACTERIOLOGY AND PATHOLOGY

Preparation of Frozen Sections by Means of Methyl and Ethyl Chloride

This method of freezing sections was suggested to the writer, Dr. H. W. Cattell (*Internat. Med. Mag.*, Dec., 1896), while witnessing a minor surgical operation, where the anesthetic employed was ethyl chloride. He thus far has obtained very satisfactory results, although he says it is an expensive method.

After preparing the tissues according to Hamilton's method, or the one advised by J. Orth, or as suggested by H. Plenge, or even when the specimen is perfectly fresh, it is placed, with some formol and gum acacia fluid, upon the specimen-holder of the microtome, and a small stream of ethyl chloride, methyl chloride, or anestite (a mixture of these two reagents) is placed directly upon the specimen. The ethyl chloride tube is held about a foot from the specimen, and moved from place to place until it is firmly attached to its base of support and ice crystals coat the upper portion. Owing to the smallness and delicacy of the crystals, they do not injure the tissues. Freezing takes place in from thirty seconds to a minute.

The author further says that excellent stained preparations may be prepared in fifteen minutes, or less.

Preparing and Staining Microscopic Sections Rapidly for Diagnosis

According to Dr. Pick, in *Centralbl. f. Gyn.* (1896, No. 40), sections may be prepared and permanently stained in from twelve to fifteen minutes, by the following process:

(*a*) The portions of tissue are washed free of blood and immediately frozen and cut with the small Young microtome. (*b*) The sections are then carried by the finger-tip into a 2 per cent. formaldehyd solution, and allowed to remain two or three minutes. (The formaldehyd solution should be made with boiled water.) (*c*) They are washed for half a minute in water, and then (*d*) placed three or four minutes in a 4 per cent. alum carmine solution, and (*e*) washed one minute in water, (*f*) placed in 80-per-cent. alcohol for ten seconds, then in (*g*) carbol-xyol for one minute, and (*h*) mounted in Canada balsam.

The advantages claimed for this method are the more satisfactory and rapid preparation of sections; the cells are fixed by the formaldehyd, the tissue not contracted by alcohol; the sections do not tear easily, take the stain well, are more easily and better cleared, and are permanent. The preparation of sections in this manner renders the diagnosis more positive, and, since it requires only twelve to fifteen minutes, the diagnosis may be determined during operation.

Pick describes a case of metrorrhagia, demonstrating the practicability of the method. in which the uterine cavity had been curetted three times during seven months. On the right side of the fundus, projecting into the uterine cavity, a tumor was found the size of a walnut.

The case was diagnosed as being one of fibroid tumor with hemorrhagic endometritis, and hysterotomy with enucleation was attempted. At the operation the enucleation was found difficult, and therefore a portion of the tumor was excised, prepared by the above method, and a diagnosis of carcinoma determined in eight minutes. The operation was, without delay, then converted into a vaginal hysterectomy.

A Formula for the Preparation of Agar for the Cultivation of the Diphtheria Bacillus

The authors, Kanthac and Stephens (*Gaz. med. di Torino*, 1896), describe a new medium for the cultivation of diphtheria bacilli. It is prepared from the fluid of ascites, or chest serum, to which is added, as fresh as possible, potassium hydrate, 10-per-cent. solution, in the proportion of 20 c.c. to the liter. This forms an alkaline albuminate which is not precipitated by boiling. To this is added from 1½ to 3 per cent. of agar, which is completely dissolved, then filtered, and then from 4 to 5 per cent. of glycerin is added. The mixture is then placed in tubes and sterilized.

Simplification of the Examination for Tubercle Bacilli

According to the *Observer* (VII, No. 8), "Professor Rindfleisch, of Würzburg, says, in the *Deut. med. Woch.*, that the bacilli are found in the greatest numbers in the liquid and not in the masses of mucus of the sputum, and advises the following method for their demonstration: Dip a camel's hair pencil in water so as to moisten it well and press out surplus water. With this stir the sputum well, and on withdrawing it, although nothing will apparently cling to it, it will be full of bacilli (if they are present in the sputum). With it stroke the cover-glass lightly, so as to make a uniform coating over it. Of course, a new pencil must be used for each operation, as it has been found practically impossible, without a disproportionate amount of labor, to free the pencil from traces of the bacilli, which might invalidate subsequent examinations."

Myoma Arising from the Wall of a Vein

Cornil (*Bull. de la Soc. Anat.;* ref. in *Brit. Med. Jour.*) records a tumor composed of smooth, muscular fibers arising from the walls of the veins of the arm. In parts the tumor formed part of the wall of the vein, while elsewhere it projected into the inside of the vessel, and greatly distended it.

Various Ophthalmic Affections Treated with Airol

Valenti (*Ref. Med.*, Dec. 12, 1896) read a paper on the above topic, before the Royal Academy of Medicine of Rome, wherein he reports very favorably of the effect of airol in various forms of keratitis and purulent conjunctivitis. The other members of the academy present, however, had not had such favorable results.

This substance is an iodogallate of bismuth, and Valenti used it in powder or ointment. The author claims to have cured kerato-hypopyon in eight or nine days, trachomatous conjunctivitis after a month's treatment, and in purulent ophthalmia the discharge disappeared in three days. Phlyctenular and simple ulcerative conjunctivitis were cured after six to seven days' treatment with airol.

Microscopical Character of the Blood in Yellow Fever

As a result of the study of the blood of one hundred cases of yellow fever, T. V. Coronada (*Cron. med.-quir. Habana*, No. 13, 1896) comes to distinctly negative conclusions, in that he could detect no variations from the normal blood.

Antistreptococcic Serum in Scarlatina

T. L. Rappaport (*Bolnitschnaja Gaz. Botkina*, No. 4; ref. in *Brit. Med. Jour.*, Jan. 2, 1897) gives the results he has obtained with antistreptococcic serum in scarlatina, as compared with those of Boginsky and Josias. The strength of Marmorek's serum is 1 in 30000, relatively to the weight of the animal, while that prepared in the St. Petersburg Imperial Institute of Experimental Medicine is 1 in 15000. Boginsky, as the result of a trial of Marmorek's serum, came to the conclusion that further experiments were desirable. Josias found that it did not have any influence on the course of the disease, unless it were that the necrotic angina had disappeared more quickly and the lymphadenitis resolved. Rappaport experimented with the carbolized solution of the serum from the Imperial Institute, containing 0.5 per cent. of phenol. He injected the solution in sixteen cases of scarlatina, among which were ten with severe complications (cellulitis of the neck, catarrhal pneumonia, necrosis of the nose, uremia, etc.). The serum, even when injected repeatedly, had no influence either on the temperature or on the complications; four of the patients died.

Disease Due to Flesh Poisons

According to C. Kaensch (*Zeit. f. Hyg.*, XXII), some eighty persons in Breslau were made ill by eating some of the uncooked flesh of a sick cow. The symptoms were nausea and vomiting, diarrhea, fever, herpes, dizziness, and collapse. No cases proved fatal.

Bacterial analysis of the meat revealed the presence of a bacillus which was found to be pathogenic for mice. This bacillus is christened B. Kaenschii, and it is claimed to be distinct from other bacteria which have been isolated in similar cases.

The Origin of Giant Cells from Endothelium

Anton Brosch, in *Virchow's Archiv.* (CXLIV, No. 2), has a paper on this subject that concludes as follows:

1. Giant cells may not only originate from degenerated angioblasts, endothelia, white blood corpuscles, etc., but also, in certain instances, from newly-formed vessels of large caliber, as a result of a peculiar (perhaps tuberculous) affection of the vessel-wall and a coexistent, still unknown, regressive metamorphosis. The existence of large giant cells with double nuclear wreaths may be taken as proof of the accuracy of this assumption.
2. It is also possible that obliteration of the vessel lumen by proliferation of diseased intima cells (endothelial cells), and the formation of ectases by such obliteration, or by compression and distortion from without (by cellular infiltration and nodule formation in the immediate neighborhood), may play an important rôle in favoring the generation of giant cells from newly-formed vessels of large caliber.
3. Since connective tissue occurs everywhere in the organism, and, as Bizzozero and Bozzolo have shown, can assume an endothelioid character, it is not improbable that all giant cells are derivatives of endothelium, or of endothelioid connective tissue cells.

THERAPEUTICS AND PHARMACOLOGY

Chinaphtol

Chinaphtol (Quinaphtol) is a compound of quinine and naphtol—quininebetanaphtolalphamonosulphonate. It occurs as a yellow, crystalline, bitter powder, insoluble in cold water, but slightly soluble in hot water and in alcohol. It is not decomposed by acids, but its two constituents are liberated in the intestinal canal. The remedy is reported as being indicated in typhoid fever, intestinal tuberculosis, dysentery, acute articular rheumatism, and particularly in such affections where the suppression of microbes and the toxic ptomains is to be aimed at. It is preferably given in cachets in single doses of 0.5 gme. (7½ grn.), and daily doses of 5 gme. (77 grn.), or even less, since 2 to 3 gme. per day have been found to be sufficient as an antipyretic, where the temperature did not rise above 40° C. (104° F.)

Tannosal—An Antitubercular

Tannosal is the synthetically prepared tannic-acid ester of creosote. It is an amorphous, dark-brown, very hygroscopic powder, soluble in all proportions in water, and having a faint odor of creosote. It cannot be dispensed in powder form on account of its hygroscopic character, and is therefore found in the market in pill-form, each pill containing 0.33 gme. (equal to 0.2 gme. [3 grn.] of creosote), and in aqueous solution, from which it may be precipitated by the addition of mineral acids, and 15 gme. of which contain 1 gme. of tannosal (corresponding to 0.6 gme. [10 grn.] of creosote). Ready solubility and absence of caustic effect on healthy tissues are adduced as advantages of tannosal over the other creosote preparations in vogue. On account of its harsh taste, however, it must be given largely diluted with water.

Dr. S. Kestner, (*Therap. Monats.*, X) has used tannosal in seventy-five cases, and almost exclusively in aqueous solution, the single dose being 1 gme. (15 grn.) of the remedy. The daily dose, amounting at first to 3 gme. (corresponding to 1.8 gme. of creosote), was gradually increased in phthisical cases to 4 or even 6 gme. No toxic symptoms were ever noticed, although in several cases as much as 9 gme. (equal to 5.4 gme. of creosote) per day had been given.

Among the cases treated were thirty-two of pulmonary tuberculosis in various stages of the disease, fifteen of acute bronchitis, one of severe capillary bronchitis, eleven of chronic bronchitis (with and without pulmonary emphysema), one of chronic broncho-pneumonia, five of bronchitis, following whooping cough and influenza, and ten of simple pharyngeal tracheal catarrh. The best results were obtained in bronchial affections, in which the remedy markedly diminished the bronchial secretion, in this respect exceeding all the other creosote preparations, and ranking with terpin hydrate ; it also increased the appetite.

According to Dr. Bolland, tannosal affects children relatively much more strongly than adults ; to them he administers per day as many teaspoonfuls of a 1 : 15 solution as they are years old.

In phthisical cases the effects of the remedy are reported to be the same as those obtained by the use of the other creosote preparations, and at least in equal degree.

Mercury Cyanide in Diphtheria

F. Lueddeckens, in the *Therap. Monats.* (1896, No. 11), gives a résumé of cases of diphtheria, as well as scarlet fever, treated by his father from 1893 to 1895, as well as by himself during 1895 and 1896, by means of mercury cyanide. There were eighty-one of diphtheria, and thirty of scarlet fever, and but one death in each disease.

The treatment was external, cold compresses being put around the throat, with at times alternate hot applications to the larynx, and, if necessary, packing and baths; topical, the necrotic topical deposits being scraped off one, two or three times daily, the pharynx then swabbed with solution of iron chloride by means of a cotton swab, and about 10 drops of a 3-per-cent. cocaine solution applied either before or after the swabbing, to render the tissues insensitive; and internal, consisting in the administration of a laxative, a mild diet (preferably milk only), lemon juice with sugar water, and a mixture containing mercury cyanide, with which a febrifuge or expectorant is combined when necessary, and which should be retained in the throat for a short time before swallowing.

Alleviation of the symptoms usually set in the day following the administration of the medicament, convalescence occurring in from five to eight days in diphtheria, and in from eight to ten days in scarlet fever.

The writer observed that constipation frequently accompanies both these diseases, and that as soon as the mercury cyanide caused diarrhea, or even vomiting, in diphtheritic cases, of ill-smelling fragments of diphtheritic membrane, a change for the better took place in the patient's general condition. He ascribes this to the action of the mercury salt on the bacteria swallowed by the patient, whereby auto-infection is hindered or rendered harmless, and he believes that the bacterial products may have considerable to do with the general condition of the patient, since they cause catarrhal conditions of the stomach and intestines, and also paralyze the peristalsis.

Rennet and the Coagulation of Milk

A. Edmunds, in the *Jour. of Phys.* (XIX, Nos. 5 and 6), in dealing with this subject, says:

1. A small quantity of milk-curdling ferment can be obtained from other tissues and organs besides the stomach, viz., testis, liver, lung, muscle, kidney, spleen, thymus, thyroid, brain, blood, small intestine, ovary.
2. There is no evidence that casein can be converted into caseinogen and re-coagulated by rennin, the apparent re-coagulation obtained by Peters being probably due to calcium salts in the rennet extract.
3. The statement made by Peters as to the coagulability of alkali albumin by rennin is inaccurate, the coagula he obtained being probably due to the presence of calcium salts in the rennet essence.
4. Peptone has a marked retarding effect on coagulation, which may be partly, at least, neutralized by the addition of calcium chloride.
5. Casein is soluble in ammonium oxalate without being reconverted into caseinogen.
6. Grimaux's *colloide aspartique* has no action on milk coagulation.

Effect of Borax on the Curdling of Milk

F. J. Allan, in the *Lancet* (No. 3796), informs us that by a series of laboratory experiments he noted that milk containing one-tenth volume of cold saturated solution of borax is incapable of curdling with rennet; that the addition of calcium chloride either before or after the rennet restored the curdling power; and that boric acid added to milk does not delay curdling with rennet—on the contrary, it rather hastens it.

Curdling with rennet is prevented by adding to milk one-sixth its volume of 5-per-cent. solution of soda bicarbonate. The addition of calcium chloride restores the curdling property even more quickly than when borax is employed. Consequently, the prevention of curdling is more probably due to the formation of a soluble compound of the casein alkali than the removal of the lime salts from the seat of action. The removal of calcium by presence of borax causes not only the curdling function to be suspended, but also the arrest of other processes where calcium is needed. Probably, therefore, the presence of borax prevents the normal production of acids by fermentation and retards digestion, and in no case is it wise to neutralize gastric juice by its use.

Action of Pancreatic Juice on Milk

W. D. Halliburton and T. G. Brodie, in the *Jour. of Phys.* (XX, Nos. 2 and 3), give a paper on this subject, of which the following is a summary:

1. The pancreatic juice obtained from temporary pancreatic fistulæ from dogs produces a change in the caseinogen of milk.

2. This action differs from the action of rennet in the following particulars:

(*a*) The precipitate of casein occurs in the warm bath (35°-40° C.) in the form of a fine granular precipitate, the milk, to the naked eye, undergoing no change in its fluidity. On cooling this to the temperature of the air, it sets into a coherent curd which contracts to only a small extent, and is again broken up into fine granules by warming to 35° C., the milk, to the naked eye, becoming again fluid. This may be repeated a great number of times.

(*b*) This phenomenon is not prevented, but only slightly hindered by such an addition of potassium oxalate as completely inhibits the activity of rennet.

3. The experiments performed with extracts of the gland lead to similar results, which may be masked if the action of the tryptic ferment is very energetic.

4. The precipitate produced may be provisionally termed "pancreatic casein." By the action of rennet it can be converted into true casein. Its solubilities are partly like those of caseinogen, partly like those of casein. It is probably something intermediate.

Urobilin—Its Unity, Properties, Separation from Urine, etc.

E. A. Garrod and F. G. Hopkins, in the *Jour. of Phys.* (XX, Nos. 2 and 3), give an extended paper on this subject.

The conclusions to be drawn from the evidence brought forward may be briefly summed up as follows:

1. With the exception of the method of Jaffe, which is difficult of application, the processes usually employed for the extraction of urobilin from urine are not calculated to yield a pure product.

2. Urobilin obtained from various human sources, i. e., from normal and morbid urines, from feces, and from gall removed from the gall-bladder postmortem, is one and the same substance—specimens from these several sources having, when pure, identical chemical and optical properties, and sharing in common the property of yielding the E band spectrum when partially precipitated from an aqueous alkaline solution by acidification.

3. The differences which have been described as existing between the several products are in part due to the influence of impurities in the specimens examined, and in part to the varying amounts of urobilin present in the specimens.

4. Urobilin is an unstable substance, and is liable to undergo certain modifications. These modified pigments have not the properties of the described pathological urobilins, and are capable of reconversion into the typical form.

Eucaine versus Cocaine in Hypertrophic Nasal Catarrh

Lewis S. Somers, M.D., of Philadelphia, in the *Ther. Gaz.* (Jan., 1897), compares the effects of the two drugs.

Cocaine produces its anesthetic effects in the nasal cavity in from three to five minutes, anesthesia continuing for twenty minutes to half an hour. Anesthesia with eucaine is not complete until eight or ten minutes, and the loss of sensibility remains about twenty minutes. When an excessive amount of cocaine solution is used in the nares, it occasionally flows backwards into the naso-pharynx, producing a very uncomfortable sensation of numbness in that region. This does not occur to any marked extent when eucaine is used.

Eucaine causes hyperemia of the mucous membrane when locally applied. This is opposed to that of cocaine, and lessens somewhat the utility of the drug when the turbinal tissues are much hypertrophied, as the cauterizing agent cannot be introduced into the nasal cavity without injuring the septum. This action of eucaine may be obviated by using equal parts of eucaine and cocaine, as recommended by Berger. The writer cites Reichert, of Berlin, who says that, aside from its anesthetic action, it is harmless in medicinal doses, not rapidly and suddenly affecting the heart, as does cocaine.

Eucaine possesses a curative action in diseases of the Schneiderian mucous membrane, independent of its anesthetic properties. Another advantage which the drug possesses over cocaine is that it may be kept for an indefinite time in solution with sterilized water, one part to ten. The solution may be repeatedly sterilized by boiling without impairing its anesthetic properties.

REVIEWS

Genito-Urinary Surgery and Venereal Diseases.—By J. William White, M.D., Professor of Clinical Surgery, University of Pennsylvania and Edward Martin, M.D., Clinical Professor of Genito-Urinary Diseases, University of Pennsylvania. Imperial 8vo. Pages 1061. With engravings and seven colored plates. Philadelphia: J. B. Lippincott Company.

This work is designed principally as a textbook for general practitioners and students rather than for specialists in genito-urinary diseases. Among the many good works that have been published on this subject this one will be sure to rank among the best. It is sufficiently comprehensive in detail, is concise and clear in description, and is up-to-date in its contents. Symptomatology, diagnosis, and treatment have received careful attention and have monopolized a large share of the volume. The most recent methods of examining the various parts of the genito-urinary systems for the acquisition of exact data on which to base a direct diagnosis are carefully and fully described. The changes which the urine undergoes in various forms of disease, and methods of analyzing the same occupy nearly thirty pages of the work. Unsettled and doubtful questions of pathology are passed lightly by and their space taken up by practical matters of more immediate value. Injuries, tumors, ruptures, foreign bodies, fistulæ and the like receive a fair share of attention. One chapter of over fifty pages is devoted exlusively to gonorrhea of the male, another of about sixteen pages to gonorrhea of the female and still another of thirty-one pages to the complications of gonorrhea. Six full chapters are devoted to syphilis, four to diseases of the kidneys, and four to the bladder.

American Year-Book of Medicine and Surgery: Being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, Drawn from Journals, Monographs and Textbooks of the Leading American and Foreign Authors and Investigators.—Collected and Arranged, with Critical Editorial Comments by Twenty-seven Eminent Medical Men, Under the General Editorial Charge of George M. Gould, M.D. Imperial 8vo. Pages 1257. Profusely Illustrated. Philadelphia: W. B. Saunders. 1897. Price, cloth, $6 50; half morocco, $7.50 net. (For sale by subscription only.)

The world moves. Science in its progress rushes. Medical science seems to have assumed the seven-league boots of the nursery tales. The net gain in distance of the year 1896 is recorded in this volume. Has the reader failed to keep track of these wonderful strides? Then let him look this volume through and he will fully appreciate the fact and wonder if he has been asleep all the while. Even if he has striven to follow it, memory is short and when he wants to know just "where we are at," he cannot recall the details. Is he a general practitioner? Then he will find within the volume 200 pages of solid new facts for him to digest on general medicine. Is he a surgeon? Then he will find 249 pages of new facts in surgery. The gynecologist, the pathologist, the ophthalmologist, the orthopedic surgeon, the otologist, the dermatologist, the anatomist, the physiologist and others will all find a similarly liberal supply laid before them of the rich, the racy, and the good from all the world. The sifting, the winnowing, the sorting, in getting the material into its present shape, must have been a tremendous task and the way it is done attests the keen, sound, commonsense of the various editors and the great executive skill of the editor-in-chief. Only those who have tried to do such work can fully appreciate its difficulties. That they have succeeded in producing a book that is bound to bring credit to American literature in foreign lands is something for them to be proud of. Of its class there is nothing superior to it anywhere. Its new feature of having department editors give critical summaries and pronouncing judgment upon new proposals and investigations makes it superior to anything of its kind that is published. This settling for the time being, by competent men, of controversial or doubtful points is of immense value to busy readers.

The illustrations are exceedingly fine in every detail and the typographical appearance leaves nothing to be desired. It should be on the bookshelf of every medical man who wishes to keep posted on what is being done by medical science.

Artificial Anesthesia: A Manual of Anesthetic Agents and Their Employment in the Treatment of Disease—By Laurence Turnbull, M.D., Ph.G., Aural Surgeon to the Jefferson Medical College Hospital, Philadelphia; etc. Fourth edition. Revised and enlarged. With illustrations. Philadelphia: P. Blakiston, Son & Co.; 1896.

The demand for a fourth edition of this manual is proof of its popularity. It covers the field of artificial anesthesia, presenting the views of the author, as well as those of many eminent authorities of this country and abroad. The subject is treated from a chemical, physiological, pathological, and therapeutical standpoint, based upon extensive experiments on men and animals. All the methods of administration of anesthetics, with the prevention and successful combating of their ill effects are carefully considered. Cautiousness is emphasized, and the author justly remarks: "Human life is too valuable to be destroyed by incompetent administrators of such beneficient, yet death-giving agents."

Too much space is devoted to the study of nitrous oxide gas. The insertion of experiments like those for the cure of "nervous diarrhea," *together with.* "best of nourishment, plenty of out-door exercise, salt water bathing," etc., should, we believe, be omitted. Chapters xxii and xxiii are more or less a repetition of what precedes. "Ether or Chloroform—Which?" etc, pages 210–226, should, in our opinion, precede the description of "Internal Administration of Ether," page 193.

These do not diminish the practical value of this excellent, up-to-date manual, and a careful study of it by the physician, surgeon, and dentist, will aid greatly in reducing the death-rate from anesthetics.

High Altitudes for Consumptives.—By A. E. Tussey, M D. Octavo. Pages, 141. Philadelphia: P. Blakiston, Son, & Co. Price, $1.50.

This is a brochure, well bound and printed, upon "the principles or guides for a better selection or classification of consumptives amenable to high altitude treatment, and to the selection of patients who may be more successfully treated in the environment to which they were accustomed previous to their illness."

The author's theme, upon which he plays some simple and monotonous variations, reduces itself to this: "The best results in the treatment of pulmonary tuberculosis are obtained by selecting those patients whom a change of clime will benefit, and sending them away, and keeping at home those who will not be benefited by such a change." Incidentally he indulges in some animadversions upon the "Family Doctor" whose place in medicine would seem to be of dubious value; and who he fears frequently makes grave errors in sending patients to ill-adapted climes.

He himself has faith in "the purer and more subtle ether of dewless prominences," but does not state whether it should be taken internally or as a lotion.

The 140 pages devoted to the subject might have been condensed to fourteen, could the author have forborne to indulge in poetic quotations and tautological effusions. As it is, the few well-known facts which the book contains are so padded with squeamish twaddle, that they are hard to find.

A very limited grasp of modern pathological and laboratory work is evident, but the author shows a familiarity with rhetorical forms, for he tries them all, from those adapted to funeral orations to those that are expressly forbidden.

The booklet has the tone of being written expressly to comfort and reassure patients in exile, or those too poor to afford a change of climate, but it is certainly of very little value to the medical profession.

CORRESPONDENCE

Advertising Dispensaries in Medical Journals

To the Editor of the A. M.-S. BULLETIN:

Several years ago there was introduced in a medical society in this city, a resolution prohibiting any member of the society from writing, or having printed after his name, other than collegiate titles. The thought back of the resolution was, that "consultant," "member," "lecturer," "surgeon," "president," "professor," "etc.," were either advertisements of clinics, dispensaries, hospitals, etc., were needed make-weights for the article, or else were intended to inspire appreciation of the author in some hoped-for consulter.

The editor of one of the New York medical journals, in commenting upon the resolution, as I recall it now, spoke commiseratingly of those who were obliged to get along without the "coveted titles," and added the weight of his unanimous opinion in favor of the custom. I do not remember his argument; but it was plain that, from his point of view, such titles are placed there from the most unselfish of motives—indeed, one could almost believe that, in many instances, a sense of duty to suffering humanity impelled the authors to a thing which they would gladly refrain from.

The dispensary and clinic question is the same as the involvement of a dollar, or of dollars, anywhere else. If you will give me some—that is, enough—Standard Oil stock, I will very soon furnish you with arguments founded upon the Bible itself, if need be, which will prove that the Standard Oil Company is a beneficent institution; and that feature in my make-up is found quite commonly in others. I thought, in fact, that in the case of the editor above referred to, I could see traces of the same trait in him.

I do not believe that if your journal, and all other journals, would prohibit such titles, that dispensary evils would entirely cease, because there is no one complete antidote for evil, any more than there is a sure-thing treatment for whooping-cough; but I believe it would help. J. L. TRACY, M. D.

Toledo, O.

Death from Antitoxin

To the Editor of the A. M.-S. BULLETIN:

I embrace the opportunity to relate to you the sad result of antitoxin administration in a case of diphtheria, here, a few days ago. We have had about half-a-dozen cases, with three deaths. A young lady of one of our first families took the disease. Her uncle, who is a physician of state-wide reputation, having read much of the good deeds of antitoxin, was led to try it on his niece. The family and patient consenting, he injected in the patient's side "2000 units." In less than five minutes the young lady was dead. This lady was free from organic disease of the heart, as her uncle says that he had carefully examined her a short time before, and before taking diphtheria she was a healthy, robust girl. The disease was only of one day's duration at the time of the administration of the antitoxin. Immediately on receiving the injection, she complained of tingling all over and "feeling so queer"; she then became cyanotic and expired. I write this as a warning, that it is not right to recommend the use of antitoxin without the admission that it is sometimes dangerous, like chloroform and ether. I have never used it, and would not dare to now.

H. M. FARR.

Mount Pleasant, Ia.

A Correction

To the Editor of the A. M.-S. BULLETIN:

In the BULLETIN of Feb. 10 it is reported that Dr. Nicholas Senn, of Chicago, requires all his assistants in the hospital to be beardless. Both of his regular assistants in the clinic at Rush Medical College and at St. Joseph's Hospital, where he does nearly all his private work, and the present house-surgeon at St. Joseph's Hospital, wear full, though not flowing, beards. So much for the report. E. J. MELLISH.

Chicago, Ill.

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EDITOR'S NOTES

We learn with extreme pleasure that Prof. Alexander J. C. Skene, Dean of Long Island College Hospital, has received the honorary degree of LL.D. from the university of his native city of Aberdeen, Scotland. Dr. Skene's grand work in the advancement of gynecology has won for him a well-merited, world-wide reputation. In honoring him, Aberdeen has honored itself. Scotland can well be proud of such a son, and America reciprocates that pride.

Quacks in Germany are treated in a most effective manner. Recently one of these "curers" was found guilty of selling nostrums for all diseases, and prognosticating marvellous cures. He was sentenced to four years imprisonment, a fine of $750, and his rights of citizenship were suspended for five years. If we had such laws in this country to deal with this class of "humbugs," it might serve to protect both the community at large and the profession.

The degree of danger that may exist in eating the flesh of poisoned animals has been investigated by Lewin, whose experiments have been reported to the Medical Society of Berlin. Some animals are not readily affected by certain poisons. For instance, fowls are very tolerant of strychnine, goats of hemlock, partridges of arsenic, rabbits of nicotine. Even the flesh of animals that have swallowed poison, and do not seem to have suffered inconvenience, may be unsafe food for man.

There is a bill before the Kansas Legislature that medical men everywhere will commend, and that it would be well for all other States to act upon as sanely. It provides that the bodies of all persons dying in the State penitentiary, the State insane asylums, or in the poorhouses throughout the State, which have to be buried at the expense of the State or county, shall, on application of the secretary of any duly organized medical college, be delivered to such college for scientific purposes.

The Scranton (Pa.) Board of Health has offered a decidedly novel proposition to the medical men of their district. They ask the privilege of having one competent man take charge of the administration of antitoxin in all cases of diphtheria reported to them. The physician in charge is to get his usual fee or fees, but the health officer is to do the treating of the case. The board has asked the council to appropriate an extra $500 as a starter for this new departure. If they get it we will watch the experiment with great interest.

Some of our exchanges seem to overlook the fact that the dust from the rooms of tuberculous patients has been proven a number of times to be able to give the disease. Dr. Hance's experiments of a few weeks ago were unassailable in their evidence. Rooms that had been properly cleaned contained no infectious dust, and when rabbits were inoculated therefrom nothing untoward occurred. Rooms not so cleansed, in which consumptive patients resided, contained dust the inoculation of which in rabbits proved fatal.

Representative Hathaway, of Massachusetts, has got himself into hot water by the misunderstanding and misrepresentation of some of the papers of that State concerning his bill on contagious and infectious diseases. The State contains institutions for the sick that go by the name of "Homes." In the bill these places are spoken of as homes, and they are forbidden to harbor cases of contagious diseases. The word "home" in it has been taken to mean the ordinary homes of the people, and, as a consequence, Mr. Hathaway is being called a savage, a brute, a beast, a dog, a disgrace, and other pet names. His bill is a good one and we believe he will survive the deluge of abuse.

Are physicians to be held responsible for miscarried mail? A judge of the District Court of Pittsfield, Mass., has just rendered a decision that shows that he thinks they should. A physician, accused of failing to report a case of contagious disease, was held as guilty, although he brought evidence that showed that he had written and mailed a card reporting the case. The judge acknowledged that he had proven that he had mailed the notice; but as the selectmen had not received it, he said that it was his duty, under the law, to impose a fine.

The Brooklyn Board of Health is considering the advisability of adopting the Buffalo ordinance against long-tubed nursing-bottles. No more necessary hygienic measure could be adopted. Every summer the slaughter of the innocents goes on from this cause in a way that out-Herods Herod. Such an ordinance carried out in every city of the Union would save thousands of babies from an untimely grave. We hope Dr. Emery will adopt it, and we also hope that other cities will imitate him. Push on the good work, and thank the Buffalo Health Board for beginning it.

Dairymen are up in arms against a proposed measure of the New York State Board of Health, compelling them to pay for the inspection of their herds, to see if they contain tuberculous animals. They hold, and we think justly, that the State should pay for this service. It is bad enough to rob a man of the use of his diseased cattle, but it is too great a refinement of cruelty to compel him to pay for having himself punished. If the reports of the daily papers are correct in this matter, the board is unjust. Their object is good; but good objects are not justified by unusual strictness.

The San Francisco (Cal.) Board of Health requires that all births be reported. A circular has been sent to all physicians and midwives in the city and county, calling attention to the section of the political code which provides that they must make a return for all births occurring in their practice during each month. Notice is also given that prompt arrest and diligent prosecution will follow any violation of the law. Two physicians have already been fined $5 each for an offense of this kind. While it is right for boards of health to exact and receive such service from medical men in behalf of the community, it is not right for them to be so exacting in taking fines where there is no compensation to the doctor for the service. We believe the public should pay the doctor for all such work, just as it pays lawyers when they do similar public service.

The other European powers are highly disturbed at the apparent indifference of England to the bubonic plague. They finally had a stop put to the leaving of pilgrims from Bombay for Mecca, but they cannot persuade the British to do more than watch and disinfect passengers from India that arrive in England. All of Europe except England seems to be almost hysterical over the situation. Only lately a poor fellow, who reached Italy in a ship from Bombay, was for a long time refused the privilege of landing, although he did not intend stopping there. Finally, they consented to have him come ashore and enter a car provided for himself, that was buried in disinfectants. He was placed between the engine and baggage car. At every principal station he passed, he himself, his luggage, and his car had to be re-disinfected. At Milan, he was transferred, under lock and key, to the St. Gothard Railway, and started for Switzerland. On reaching the frontier, the Swiss officers refused to let him proceed; so, car and all, he was returned again to Milan, where the authorities thought seriously of sending him on to Southern Italy again. Finally, they concluded to let him go, and, as an unmarked man, he proceeded through Europe to his destination, without further molestation.

◆

Cats are accused of being an active agent in the spread of disease germs, by the San Francisco Board of Health.

A bill before the Senate of Nebraska requires midwives, nurses, or parents to report to a physician any symptoms of disease in the eyes of infants that may be in their charge, within three weeks after birth of the infant. The object of the bill is to prevent infant-blindness.

The Anti-Vaccination Society of England has run out of funds, and, unless speedily aided by the public, will have to cease publishing the *Vaccination Enquirer*, a paper of which the *British Medical Journal* says that "for truculent personalities, unblushing assurance in assertion, and ingenious sophistry," has no equal on that side of the Atlantic.

NEWS

The Baltimore City Hospital has opened a school for nurses.

The Detroit Board of Health no longer requires cases of measles to be strictly quarantined.

The Salem (Mass.) Board of Health is about to adopt formaldehyd gas as a means of disinfecting.

A bill has been presented to the Maine Legislature to allow homeopathic treatment in the Eastern Maine Insane Asylum.

Dr. James P. Mann has recently been appointed to the Chair of Orthopedics in the Medico-Chirurgical College of Philadelphia.

The Medical Registration and Examination Bill, before the Indiana Legislature, came up for second reading in the house on Feb. 18.

The fifth semi-annual meeting of the Southern Kentucky Medical Association will be held in Hopkinsville, Ky., April 14 and 15.

The Sibley Memorial Hospital of Washington, D. C., has decided to introduce a system of free nursing into the homes of the poor.

Hereafter the bodies of babies turned over to the city of St. Louis, Mo., for burial, will not be given to the Anatomical Board for dissection.

Health Commissioner McShane, of Baltimore, Md., is waging war on those who make a practice of selling second-hand immigrant bedding.

A dispatch from Philadelphia to the Chicago Board of Health states that there are over 50000 cases of "grip" in the "City of Brotherly Love."

The Board of Medical Examiners of Tennessee, on Feb. 24, passed ten out of sixteen applicants for certificates to practice in that State.

The President of the First National Bank of Mason City, Ia., has contracted consumption by inhaling tuberculous germs from his diseased cattle.

The case on appeal from the Kings County Circuit Court, which gave a verdict of $489 to W. H. Smith, in his suit against Health Commissioner Emery, of Brooklyn, for $1,000 damages, is having a second trial. Smith's charge was that of forcible vaccinating against his will.

The Maine Board of Registration of Medicine have submitted their first annual report. Of the 1162 registered practitioners, 1016 are graduates.

A number of Baltimore physicians have organized a society for the purpose of combating the unlimited free treatment of patients at dispensaries.

A homeopathic physician has been appointed superintendent of the Insane Asylum at Nevada, Mo. The State Governor believes in homeopathy.

Plans are being considered for a new building for Trinity Hospital, in Minneapolis, Minn., and others for remodeling the Milwaukee (Wis.) Medical College.

The antivaccination cranks of the "Keystone State" are trying to have the wholesome law of 1895, which made the vaccination of school children compulsory, repealed.

A case against a medical man for conspiracy, because he refused to attend the sick child of a man who was listed as not paying his bills, has been started at Pittsburg, Pa.

In referring to the proposed Wisconsin medical registration bill, the Milwaukee *News* terms it the "Medical Trust Bill." The *Journal*, published in the same city, calls it "a curiosity."

The physicians of Chattanooga, Tenn., have sent a memorial to the City Council, praying that the Erlanger Hospital be used exclusively for hospital purposes, and not as a reformatory.

The officers of the People's Institute, a medical college in Chicago, have sent a memorial to the Kansas Legislature on the proposed legislation affecting the practice of medicine in that State.

Passed Assistant Surgeon H. D. Geddings, of the Marine Hospital service, was detailed by the President as delegate to the International Sanitary Conference which met in Venice last month.

Two medical students of Nashville, Tenn., went grave-robbing one night recently.

The graves were being watched, the students were fired upon, and their guide fell mortally wounded.

The Camden (N. J.) Medical Society is after a member whose portrait appeared in a Philadelphia morning paper. The luckless young practitioner declares that it was introduced without his knowledge or consent.

At a recent meeting of the Medico-Chirurgical Society of the District of Columbia, it was recommended to transfer the control of the Freedman's Hospital from the Secretary of the Interior to a board of incorporators.

The Health Department of Chicago has instituted legal proceedings against the horse-butchers whose slaughter-house is in the town of Lyons. They are charged with maintaining a nuisance within a mile of the city limits.

The antivivisectionists of Michigan, on Thursday, Feb. 11, had a ghastly picture, illustrating the horrors of vivisection, in the Detroit *Journal.* They called it a sermon without words, and an argument for the Bryan Bill.

The Southern Section of the American Laryngological, Rhinological and Otological Society held its annual meeting at the New St. Charles Hotel, New Orleans, La., on March 3, 1897. An interesting program was presented.

The Albany (N. Y.) Board of Health has sent out circulars similar to those issued by the New York Board, cautioning the public against the practice of expectorating in public places, and containing suggestions for the prevention of tuberculosis.

A freak bill is before the Colorado Senate, that guarantees to every citizen the right to select as medical attendant any person he chooses, and permits him to pay the man of his choice. The Osteopaths and Christian Scientists have fathered it.

The Committee on Public Health of the Massachusetts Legislature gave a hearing on a bill to turn over to medical schools at death, for anatomical science, the bodies of persons who are public charges, and which are unclaimed by relatives or friends.

Application has been made to the Common Pleas Court of Philadelphia for a charter for the Quaker City Medical Service Company, whose object is to supply to its members, or subscribers, medical service and medicine, in case of sickness, at nominal rates.

At a recent meeting of the Board of Trustees of the Jefferson Medical College, Philadelphia, Dr. J. Chalmers DaCosta was elected Clinical Professor of Surgery. Dr. DaCosta has been connected with the College for many years, and has recently been Demonstrator of Surgery and Chief of the Out-patients Department. The new appointment is made in recognition of his long service and valuable contributions to surgical literature.

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OBITUARY

Dr. John D. Brumley, of Newark, N. J., aged 62 years. He was for many years the Commandant of the New Jersey Home for Disabled Soldiers.

Dr. Samuel Hutchins Hurd, at Atlantic City, N. J., on Feb. 5. He was born in the Charlestown district of Boston in April, 1830, and was graduated at Harvard in 1852.

Dr. Samuel C. Blake, one of the oldest physicians of Chicago, on Feb. 6. He was born at Bath, Me., July, 1826; was a graduate of Harvard; was one of the organizers of the Chicago City Hospital, and one of the founders of the Women's and Children's Hospital.

Dr. Gonzalvo Cordova Smythe, of Greencastle, Ind., on Feb. 9, of typhoid fever. He was graduated from Asbury, now DePauw, University, in 1858. He was Professor of Principles and Practice of Medicine in, and Dean of, the Central College of Physicians and Surgeons, of Indianapolis. In 1888, he was elected President of the Board of Trustees of the same institution, and in 1890-91 he was President of the Indiana State Medical Society. Dr. Smythe was 61 years old.

Dr. Perry H. Millard, at Baltimore, Md., after an illness of several months. He was Dean and Professor of the Principles and Practice of Surgery and Medical Jurisprudence in the Medical Department of the University of Minnesota. The State of Minnesota is indebted to him for its present system of medical examinations. He was born in the State of New York in 1848, was graduated at Rush Medical College in 1872, and for twelve years was a member of the Minnesota State Board of Health. He was also an official surgeon of the United States Army and of the Omaha & Great Western Railway.

NATIONAL MEDICAL SOCIETIES

Annual Meetings

Name of Society	Place	Time	Secretary	Residence
American Academy of Medicine	Philadelphia, Pa.	May 29-31	Dr. C. McIntyre	Easton, Pa.
American Academy of Railway Surgeons	Chicago, Ill.	Sept.	Dr. D. C. Bryant	Omaha, Neb.
American Assoc. Genito-Urinary Surgeons	Washington, D. C.	May 4-6	Dr. W. K. Otis	New York City.
American Assoc. Obstetrics and Gyn.	Niagara Falls, N. Y.	Aug. 17-20	Dr. W. W. Potter	Buffalo, N. Y.
American Climatological Association.	Washington, D. C.	May 4-6	Dr. G. Hinsdale	Philadelphia, Pa.
American Dermatological Association	Washington, D. C.	May 4-6	Dr. J. T. Bowen	Boston, Mass.
American Electro-Therapeutical Assoc.	Harrisburgh, Pa.	Sept. 21-23	Dr. M. Einhorn	New York City.
American Gynecological Society	Washington, D. C.	May 25	Dr. J. Riddle Goffe	New York City.
American Laryngological Association	Washington, D. C.	May 3-7	Dr. H. L. Swain	New Haven, Conn.
American Laryngological, etc., Society	Washington, D. C.	Apr. 30, May 1	Dr. R. C. Myles	New York City.
American Medical Association	Philadelphia, Pa.	June 1-4.	Dr. W. B. Atkinson	Philadelphia, Pa.
American Neurological Association	Washington, D. C.	May 4-6	Dr. G. M. Hammond	New York City.
American Ophthalmological Society	Washington, D. C.	May 4-6	Dr. S. B. St. John	Hartford, Conn.
American Orthopedic Association	Washington, D. C.	May 18-21	Dr. J. Ridlon	Chicago, Ill.
American Otological Society	Washington, D. C.	May 4	Dr. J. J. B. Vermyne	NewBedford, Mass.
American Pediatric Society	Washington, D. C.	May 4-6	Dr. F. A. Packard	Philadelphia, Pa.
American Physiological Society	Washington, D. C.	May 4-6	Dr. W. H. Howell	Baltimore, Md.
American Public Health Association	Philadelphia, Pa.	Sept.	Dr. I. A. Watson	Concord, N. H.
American Surgical Association	Washington, D. C.	May 4-6	Dr. M. H. Richardson	Boston, Mass.
Army and Navy Medical Association	East St. Louis, Ill.	May 18.	Dr. E. P. Bartlett	Springfield, Ill.
Association of American Anatomists	Washington, D. C.	May 4-7	Dr. D. S. Lamb	Washington, D. C.
Association of American Physicians.	Washington, D. C.	May 4-6	Dr. H. Hun	Albany, N. Y.
Association of Military Surgeons of U. S.	Columbus, O.	May 25-27	Dr. H. Burgin	Philadelphia, Pa.
Canadian Medical Association	Montreal	Aug.	Dr. F. N. G. Starr	Toronto.
Mississippi Valley Medical Association	St. Paul, Minn.	Oct. 19-22	Dr. H. W. Loeb	St. Louis, Mo.
Missouri Valley, Medical Society of	Lincoln, Neb.	March 18	Dr. D. Macrae, Jr.	Council Bluffs, Ia.
National Association of Railway Surgeons	Chicago, Ill.	May 4-6	Dr. C. D. Wescott	Chicago, Ill.
New England Psychological Society	Waverly, Mass.	March	Dr. E. V. Scribner	Worcester, Mass.
Southern Surgical and Gynec. Assoc.	Nashville, Tenn.	Nov. 10	Dr. W. E. B. Davis	Birmingham, Ala.
Tri-State Medical Society	St. Louis, Mo.	April 6-8	Dr. G. W. Cale	St. Louis, Mo.
Western Ophthalmological, etc., Assoc'n	St. Louis, Mo.	April 8-9	Dr. H. Foster	Kansas City, Mo.
Western Surgical and Gynec. Assoc'n	Denver, Col.	Dec. 28-29	Dr. H. E. Pearse	Kansas City, Mo.

STATE MEDICAL SOCIETIES

Annual Meetings

State	Place	Time	Secretary	Residence
Alabama	Selma	April 20–23	Dr. J. R. Jordan	Montgomery.
Arkansas	Little Rock	May 12	Dr. F. Visonhaler	Little Rock.
California	San Francisco	April 20–22	Dr. W. W. Kerr	San Francisco.
Colorado	Denver	June 15	Dr. H. B. Whitney	Denver.
Connecticut	Hartford	May 26, 27	Dr. N. E. Wordin	Bridgeport.
Delaware	Rehoboth	June 8	Dr. P. W. Tomlinson	Wilmington.
Dist. of Columbia	Washington	April 6	Dr. J. R. Wellington	Washington.
Florida	Palatka	April 21	Dr. J. D. Fernandez	Jacksonville.
Georgia	Macon	April 21	Dr. R. H. Taylor	Griffin.
Illinois	East St. Louis	May 18	Dr. J. B. Hamilton	Chicago.
Indiana	Terre Haute	May	Dr. F. C. Heath	Indianapolis.
Indian Territory	South McAlester	June 1, 2	Dr. G. J. Rucker	Claremore.
Iowa	Marshalltown	May 19–21	Dr. J. W. Cokenower	Des Moines.
Kansas	Topeka	May 12–14	Dr. W. E. McVey	Topeka.
Kentucky	Owensboro	June	Dr. S. Bailey	Stanford.
Louisiana	New Orleans	May 4	Dr. P. B. McCutchon	New Orleans.
Maine	Portland	June 2–4	Dr. C. D. Smith	Portland.
Maryland	Baltimore	April 20–23	Dr. W. G. Townsend	Baltimore.
Massachusetts	Boston	June 8, 9	Dr. F. W. Goss	Roxbury.
Michigan	Grand Rapids	May	Dr. C. H. Johnston	Grand Rapids.
Minnesota	Mankato	June 16–18	Dr. I. Donnelly	St. Paul.
Mississippi	Jackson	April 21	Dr. J. R. Tackett	Meridian.
Missouri	St. Louis	May	Dr. J. N. Jackson	Kansas City.
Montana	Helena	April 8	Dr. W. C. Riddell	Helena.
Nebraska	Lincoln	May 18–20	Dr. G. H. Simmons	Lincoln.
New Hampshire	Concord	May 24, 25	Dr. G. P. Conn	Concord.
New Jersey	Cape May	June 22	Dr. W. Pierson	Orange.
New York (Assoc.)	New York City	Oct. 12–14	Dr. E. D. Ferguson	Troy.
New Mexico	Albuquerque	May 12	Dr. H. J. Abernethy	Socorro.
North Carolina	Elizabeth	June 8	Dr. R. D. Jewett	Wilmington.
Ohio	Cleveland	May 19–21	Dr. T. Hubbard	Toledo.
Ontario	Toronto	June 2, 3	Dr. J. N. E. Brown	Toronto.
Oregon	Portland	June 8–9	Dr. W. F. Amos	Portland.
Pennsylvania	Pittsburg	May 18, 19, 20	Dr. W. B. Atkinson	Philadelphia.
Rhode Island	Providence	June 3	Dr. F. L. Day	Providence.
South Carolina	Union	April 22	Dr. W. P. Porcher	Charleston.
South Dakota	Mitchell	June 9	Dr. W. J. Maytum	Alexandria.
Tennessee	Nashville	May 11	Dr. C. R. Atchinson	Nashville.
Texas	Paris	April 27	Dr. H. A. West	Galveston.
Washington	Spokane	May 11, 12	Dr. J. M. Semple	Medical Lake.
West Virginia	Charleston	June	Dr. G. A. Aschman	Wheeling.
Wisconsin	Racine	May 5	Dr. C. S. Sheldon	Madison.

PUBLISHERS' DEPARTMENT

PLATT'S CHLORIDES

Free chlorine, while it ranks first among disinfectants and deodorizers, has two decided objections for sick-room use, i. e., its irritating and offensive odor, and its bleaching action on fabrics. The chemical combination known commercially as "Platt's Chlorides" is a saturated solution of the metallic chlorides that are standard germicides and deodorants. It is odorless, colorless, and possesses none of the objectionable features enumerated above. Samples of "Platt's Chlorides," with formula, have been given freely to physicians for years, and it has received high indorsements from the profession.

MULFORD'S ANTITOXIN

In a circular letter recently published by the Board of Health of the Province of Quebec, attention is called to the results obtained in the treatment of diphtheria with antitoxin, in reducing the mortality. The circular continues: "Apart of this saving of life, antitoxin has, as advantages, that it shortens the duration of the illness and that it can be used as a preventive on persons who have been exposed to the infection, so as to render them refractory to the disease. One of the most recommendable products is the antitoxin of H. K. Mulford Co."

THE SAVANNAH LINE

The "Savannah Line" sends us a neat booklet outlining all the beauties of the territory reached by it, and also giving a complete description of the Line's steamers and the conditions of travel on them. The chapter on "Southern Resorts" gives many valuable pointers, and will certainly prove useful to the prospective traveler to the "South." Although the book points out the special advantages of the Savannah Line, its pages do not bespeak the gross "advertisement." It can be had by sending a two-cent stamp to "Savannah Line," at New York, Boston, or Philadelphia.

APPRECIATED BY PHYSICIANS

Much of the good faith that is entertained in any medical agent that is presented to the profession, depends upon a knowledge of its manufacturers. "Carnogen," an advertisement of which appears in the BULLETIN of to-day, is made by the American Therapeutic Company, a well-organized and responsible company. Large and important contracts have been made with one of the greatest abattoirs in the country, and the business of the company has increased beyond all expectations. Its methods are those of integrity, and a commendable resolution to cater to the medical profession alone, and not to the public, entitles it to the support and confidence of all practitioners.

AMENORRHEA

A prominent physician of Pulaski, Giles County, Tenn., writes to the Dios Chemical Company concerning the treatment of this condition with Dioviburnia. He states that he tried the remedy in the case of a young woman who had been suffering from amenorrhea for six months. In two months after beginning the treatment the patient was completely relieved. Encouraged by this gratifying result, he has since employed Dioviburnia very extensively in the treatment of dysmenorrhea, menorrhagia, and leucorrhea, all of which are generally accompanied by a congestion of the uterus and ovaries, and has found it to render good service in his hands.

FOR INGENIOUS DOCTORS

The "Christy" bicycle saddle is the pioneer anatomical saddle, and Messrs. Spalding, the makers, firmly believe they have the best saddle on the market. In order to get ideas from the profession, they make the following offer:

> They would like to receive from physicians an advertisement setting forth the good points of the Christy Saddle, showing the pelvis bones on the two saddles as used in all Spalding advertisements, and not to occupy more than a half page, magazine size; the competition to close April 15. First prize, $50 in cash; second prize, $25 in cash; third prize, $10 in cash. For every advertisement accepted and used, one Christy Saddle will be sent to the physician submitting the same. All communications submitted, must be sent to the American Sports Advertising Agency at 241 Broadway, New York City, and at the sender's risk. No advertisement will be returned.

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The St. Petersburgh Medical Institute for Women has received from the Russian Imperial Treasury, by order of the Czar, 65000 rubles, with which to erect residential quarters for the students.

The Grand Jury of San Francisco, in a recent investigation of the City Hospital, found the sewerage abominable, and an invitation to disease; the beds, old and dilapidated; and the bedding, rags. When the last sewer pipes and drains were laid, the old ones were left *in situ*.

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EDITORIAL

MEDICINE AS A SCIENCE

MEDICINE as an art is very old. It has existed under many changing forms since the earliest times. Medicine as a science is but an infant in years, and will not acquire its full stature for centuries. As astronomy had its astrology, and chemistry its alchemy, so medicine had its pseudo-scientific form during the Middle Ages, and has scarcely gotten out of it yet. Not until the adoption of the inductive method did it take on a genuine, scientific character and become worthy of the name of science. As it still bears many pseudo-scientific features, it will be well to state how a true science is distinguished from a false one.

Such parts of our present system as are truly scientific have for their foundation carefully conducted experiments. Every experiment was a question put to Nature to get her reply. All true science dealing with phenomena is built in this way only. Pseudo-sciences, on the other hand, are either empiric masses of experiences, or reasoned-out conclusions from individual experiences that are never put to the test of verification in an unbiased manner. In pre-scientific times, and among the unscientific now, the processes of thought in reaching fixed conclusions were quite unlike those of true science. They merely looked into the contents of their own consciousness, reasoned out a theory in harmony therewith, and immediately proceeded to act upon it as an established truth. They assumed that the contents of their own minds epitomized the universe, and they justified their methods on this ground. Instead of adapting the contents of their minds to the contents of Nature, they undertook to adapt the contents of Nature to the contents of their minds. All ancient philosophies and pseudo-sciences were built in this way. People trained without an experience in scientific methods reason this way now. Such reasoning works well in such abstract sciences as algebra and geometry, but in every one of the concrete sciences it is a dismal failure. The experimental method is the only one that gives sound results. Nature should answer every question herself, and not mere logic. Far-reaching, reasoned conclusions, however carefully made, are never certain. No mind ever yet contained all the facts of Nature, and no reasoner ever knows what facts of the infinitely possible he has left out. In building a true science, facts are first gathered, from these facts principles are inferred, and finally, every inference is again re-tested by its implications. If it distinctly points to a result that should occur, and that result does not occur, we have positive proof of error. A science that cannot predict with certainty, under thoroughly known conditions, all of which are distinct and definite, the occurrence of certain results, is not a true science. Does medicine answer any or all of these requirements? Has it been built on the solid ground of experiment, or on a fine-spun theory of somebody's brain? Have its conclusions been dissected into their simplest possible elements, and every one of these elements put to the test of experiment? We can only answer these questions intelligently after we have clearly defined what constitutes medical science.

In the art of medicine, we first make a diagnosis, and then adopt some line of treatment to effect a cure. Our diagnosis informs us how, and how far, the patient has deviated from normal physiological conditions. Our treatment seeks to rid the patient of his pathological state, and bring him back to the normal. This, we believe, constitutes the sum total of the physician's function, reduced to its simplest terms. What kind of knowledge is needed to accomplish this object? If we do not know the true physiology of man, how can we know the deviations from that physiology? If we lack one single iota of that knowledge, must we not, in the very nature of things, be powerless to detect just so much of deviation? Be our ignorance much, or be it little, are we not exactly so much, or so little, short of perfection in performing the duties that are demanded of us? If we do not know how to convert any given physiological condition into a prevalent pathological one, and again reconvert that pathological condition back to the physiological, are we not restricted by the lack of just such knowledge? Among the thousands of known pathological states, are we not limited in our powers, as medical men, by just so many of these states as we cannot direct back to the normal? Since each one of these questions admits for itself of but one rational answer, it will not be necessary for us to give the same. The reader can do that for himself. As a science of medicine is a science of change of pathological to physiological states, it is, then, a study of dynamics, and not of statics. It deals solely with changes in living beings. Its basis is physiology first, and the deviations from physiological conditions afterwards. Without a science of physiology, there can be no science of medicine, since there can be no science of the deviations from physiology and the restorations to the same again. An imperfect physiology is an imperfect science of medicine. In the direct ratio of the imperfection of the former, even so must be the imperfection of the latter. Whatever checks physiology, checks medicine. Whoever is an enemy of physiology is an enemy of scientific medicine, and therefore an enemy of the human race. Until we can convert all possible pathological conditions back into physiological ones, our science is imperfect. The amount of its imperfection can be gauged exactly by the amount in which it fails to meet this requirement. Every medical man whose heart is in his work must heave a sigh when he thinks of this. Centuries, perhaps millenniums, will be required to reach this goal. Quacks have made the ignorant masses believe we are there already. Whenever the latter are disappointed in results, they blame the doctor, and not the state of human knowledge. They ignorantly believe that, if they had had someone else, the patient could have been saved. This is why they are so easily converted into sympathizing with antivivisectionists. This is why quacks crowd into the camps of the antivivisectionists and permit their titles to give weight to the delusion these people entertain. No medical man who knows the basis on which medical science rests could possibly sympathize with such people. For a doctor to go with them is to advertise either his ignorance or his venality. Their attitude is an insult to medical common sense, and it is easy to predict that an overwhelming majority of the doctors who associate with them are irregulars.

How can we convert pathological into physiological conditions, watch the operation, and understand every one of its successive steps, without vivisection? The way to do this must be found before we can understand the effect of a single medicine on a patient. We might give medicines till doomsday and not find this out. Every medicine we give produces multitudes of results that only experiment can bring down to single ones. Every organ in the body, every tissue, every nerve is affected by the simplest things we give. To know how much and how each of them affects a single nerve, a single muscle, or a single organ, requires vivisection. To know how to compound medicines to get the largest effect on any given organ or tissue, requires vivisection. We must know the power of each drug and know whether or not our combined drugs work together. All such knowledge can only be had by vivisection. Must we go on forever blindly experimenting on human beings when our skill is exhausted? Must we cease intelligently seeking to extend the limits of our knowledge beyond its present narrow confines? Either doctors must vivisect the antivivisectionists, their allies, and innocent dupes, for all future time, or they must see to it that the physiologists are permitted to go on with their work unmolested. There is no middle ground. In the blind ignorance in which all medical men are concerning the as yet undiscovered facts of physiology, we must experiment on our patients, or let the physiologists experiment on animals. This is the issue, and it is folly to mince it or hide the fact from the public. What is worse still is the fact that the doctors who side with the antivivisectionists are even now vivisecting and experimenting on their patients in matters that physiology has settled, but of which they are ignorant. If they knew the work physiology has accomplished, they could not be in that camp.

THE DEVELOPMENT OF MEDICAL SCIENCE

ONE has not to go very far back into history to reach a time when medical treatment was based on the grossest superstition. Then disease was held to be obsession, and in the dominant school of practitioners, remedies were selected by their fancied resemblances to the symptoms of the same. This was known as the doctrine of signatures. They taught that God had placed reliable signs on every plant by which its therapeutic value could be told. The redness of the juice of sanguinaria was evidence to them that it was good for the blood. The redness of red flannel was interpreted in the same manner, and as a vestige of this old superstition we still find people who call red flannel "medicated flannel." The yellowness of the juice of celandine proved to them that it was good for jaundice, and as decoctions of saffron shaded from yellow to red, it was believed to be good in jaundice, measles, and scarlet fever. Milkwort was used as a galactagogue, and eyebright, because of the fancied resemblance of its corolla to the organ of sight, was used in all diseases of the eyes. Mineral drugs were usually given because they were in some way supposed to match what were called bodily humors and to meet the astrological indications of the planets. The physiology and anatomy of these practitioners were equally hazy. They knew nothing of the laws governing respiration, digestion, ciroccur, we have positive proof of error. A science that cannot predict with certainty under thoroughly known conditions, all of which are distinct and definite, the occurrence of certain results, is not a true science. Does medicine answer any or all of these requirements? Has it been built on the solid ground of experiment, or on a fine-spun theory of somebody's brain? Have its conclusions been dissected into their simplest possible elements, and every one of these elements put to the test of experiment? We can only answer these questions intelligently after we have clearly defined what constitutes medical science.

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SOME ILLUSTRATIONS OF THE METHOD OF MEDICAL PROGRESS

EVERY medical man who loves his profession, and who possesses intelligence enough to see how closely it is bound up with physiology, rejoices in the promise of great things yet to come. The work now going on with the antitoxins bids fair to revolutionize some of our old ways and change some of our old thoughts. To present this in all its phases, as it should be presented, would take more time than we can at present bestow upon it. Being new, it has yet a fight ahead of it. We all know the early fate of Jesuits' bark [illegible]d the lively opposition encountered by [illegible]cination. The best things always re[illegible] the worst blows [illegible] still mul[illegible] in this world [illegible]e that no g[illegible]ing can co[illegible] Nazareth. Th[illegible]te, their prej[illegible] malice reculation, or excretion. The functions of the lungs, heart, arteries, veins, intestines, liver, spleen, pancreas, and kidneys were wholly unknown to them. They must, by accident if in no other way, have noticed the throbbing of the pulse, but it had absolutely no meaning to them. They knew that the veins contained blood, and, if we go back far enough, we find them believing that the arteries were filled with air. They knew nothing of lymphatics or lymph. The composition of the air was entirely beyond their ken. They believed it to be an ocean of spirits or ghosts. A gust of wind meant a ghost of wind. Out of this condition of crass, stupid ignorance, vivisection, and vivisection almost alone, has delivered us. The ignorant masses religiously abhorred experiments of every kind. They believed that God had already revealed all of Nature that He desired us to know. The more intelligent tolerated such experiments as were intended to establish alchemy. With the masses, all experimenters were believed to be cultivators of the black art, to be in league with the devil, and to have made a compact with Satan. Their charges and invectives against all experimenters were couched in language that bears a close family resemblance to that now used against physiological experimenters. Indeed, it is, in fact, the dying echo of that same cry.

Let the reader try to picture to himself, if he can, the benighted condition of those times. Then let him ask himself—What brought us out of such a horrible condition? There is but one answer, and that is—Vivisection. Take away the fruits of animal experiments from us and we would be landed back into that benighted condition. Every bit of our knowledge of intestinal digestion has come to us through experiments on animals.

Most of our important knowledge of stomach digestion has reached us in the same way. A considerable part of it, however, was gained by experiments on Alexis St. Martin. The function of the heart was discovered by experiments on animals. This antivivisectors deny, in spite of the fact that Harvey has emphatically and unequivocally asserted it.

Someone has said that some human beings would deny the multiplication table and the axioms of geometry if they came in the way of their sentiments. The method by which blood nourishes the tissues was found by the vivisections of Malpighi, Waller, and Cohnheim. How the chyle is carried into the blood was revealed by the animal experiments of Aselli and Pecquet. The processes of intestinal digestion and absorption came to us from the vivisections of Hunter, Magendie, and others. If we turn our attention to the nervous system, we find that all our knowledge of its functions has been derived from vivisection. Examples may be cited in the work of Joannes Müller with the spinal cord, and of Sir Charles Bell and Magendie in their discovery of the difference between sensory and motor nerves. How we could without vivisection have discovered the functions of the lungs, kidneys, liver, spleen, pancreas, and other organs is utterly inconceivable. In view of all this, let us ask ourselves what use we would be as medical men without such knowledge. What possible judgment could we make about alimentation if we knew nothing of the physiology of digestion? What could we tell about pneumonia, or phthisis, if we knew nothing of the functions of the lungs? What could we tell about the diseases of the liver, the spleen, the pancreas, the kidneys, or any other organ if we knew nothing of their physiology? If we knew nothing of the influence of the nervous system over the circulation, or over nutrition, how powerless we would be to form a judgment about a patient as to diagnosis, prognosis, or treatment! Every time we feel a pulse, listen to the lungs or heart, look at the tongue, examine the urine, or attempt to gain the data for a diagnosis, we are using knowledge that never could have been had without vivisection. To know the function of any part, it must be made to act under observation, uninterfered with by other conflicting parts. This every man of common sense must see cannot be accomplished with inner organs without vivisection. Every effort of the doctor to make a diagnosis depends upon the knowledge he has of the functions of different organs, which knowledge could only be gained by vivisection. The sole difference between the doctors described at the beginning of this editorial and the doctors of to-day, in diagnostic ability and in ability to treat people rationally, is that we use knowledge derived from vivisection and they did not. The difference between the scientific doctor and the quack lies in the fact that, whereas the former has a large store of physiological knowledge, the latter has only a smattering. The enemies of vivisection, in their ignorance, ask medical men to show them isolated or particular points of evidence proving the benefits of animal experimentation. With equal sensibility they might ask an engineer to show them the essential part of a locomotive that enables it to pull. They fail to see that its benefits come as an organized whole. They do not understand that vivisection is the sole energizing force that makes medical science what it is. Look it through and through, and not one jot or one tittle of it would remain if all the results flowing from vivisection were obliterated. Every failure of medicine is due to the absence of needed animal experiments. Every doubt, every hesitation to act, every fear of the medical man at the bedside of the sick is owing to the fact that the work of animal experimentation is incomplete. Such doubts, such fears, such failures to act are earnest protests from the **hearts of honest men against antivivisection.** As true prayer "is the soul's sincere desire, uttered or unexpressed," then every time the mother's heart-strings are wrung by the hesitation of her honest family physician, she is indeed praying for the only means that God has given us to gain the coveted healing power. If these means are ruthlessly stolen away by the hand of fanaticism, then the blood of generations yet unborn is destined to cry out against all antivivisectors as the worst possible enemies of the human race. Unnumbered lives that might be saved are, by their acts, condemned to die. Unnumbered millions of human beings that, but for them, would be freed from pain, are, by their wanton interference, forced to endure it. The evil they do is not the evil of a day, that ends and is gone; it is a perpetual wrong, the consequences of which we can never overtake. Time lost now is time lost forever.

SOME ILLUSTRATIONS OF THE METHOD OF MEDICAL PROGRESS

EVERY medical man who loves his profession, and who possesses intelligence enough to see how closely it is bound up with physiology, rejoices in the promise of great things yet to come. The work now going on with the antitoxins bids fair to revolutionize some of our old ways and change some of our old thoughts. To present this in all its phases, as it should be presented, would take more time than we can at present bestow upon it. Being new, it has yet a fight ahead of it. We all know the early fate of Jesuits' bark and the lively opposition encountered by vaccination. The best things always receive the worst blows. There are still multitudes in this world that believe that no good thing can come out of Nazareth. Their spite, their prejudice, their malice resist calm judgment and cause the timid, but just, to waver and to fear. Accidents occur everywhere and at all sorts of times, and when these coincide with the administration of a remedy that prejudice opposes, antivivisectors charge them to the remedy and magnify them to an enormous degree. As antitoxins cannot be had without vivisection, the antivivisectionists are naturally opposed to them on principle. Other classes of remedies do not require vivisection for their production, and these people, therefore, are undemonstrative regarding them. When, however, their most marked properties have been revealed by vivisection, an outcry is raised against them as dangerous and useless. Many of the objectors know well that medical science cannot progress without experiments on animals. They know that it would be as senseless to expect material progress to go on if every Edison, Tesla, and Bell were forbidden the right to experiment, as for medical science to advance with physiologists made into criminals by law.

Only a small number of our drugs have been investigated as they should. When a medical man opens a book on Materia Medica, he finds everything classified. There are neurotics, antispasmodics, sedatives, spinants, refrigerants, and many other kinds. A large number of the drugs thus classified are placed in these groups by guess or from tradition. The more recent ones have found their places as a result of actual experiment. Some of the older ones have been studied and placed in the same manner. Those so tested can be used with a considerable degree of certainty as to results. The others fail more often than they succeed. It is this that has caused so much unreasonable polypharmacy. A recent proof of this unreliability of drugs that are classified solely on clinical evidence, is seen in the cholagogues. Only one out of nearly a dozen possessed any such power. The fact that we have such a classification is good. As time goes on, and as experiments are applied, every drug will get rightly placed. But how? Only by experiments on animals. We came by this classification, in the first place, by experiment, and we can only hope to improve it by the same means. Medical men would have no guide without it. When we seek synergistic action, we learn how to gain it by this arrangement. It tells us what drugs to choose from to gain a favorable action on such part of the system as we wish to affect most profoundly. Where it is wrong we are misguided. Where it is correct we get our desired results. Where it has been submitted to the test of experiments it is right. Where it depends solely on clinical evidence it is more often wrong than right.

In opposition to this claim, the antivivisectionists tell us that experiments with drugs on animals are unreliable. The effect produced in one animal, they say, is wholly unlike that produced upon another, and those produced on the lower animals are wholly unlike those produced on man. Here we have a fine display of their ignorance of what the physiological experimenter is seeking for. The differences to which they refer constitute an important part of the information that is wanted and sought for. There is a chain of continuity binding extreme with extreme, and there is a law by which the variations occur. This law and this continuity give the key to the nature of the drugs studied far more effectually than if there was no variation. In this very law is the secret of immunity, and in it lies the proper understanding of the antitoxins. Investigators are after collective results, not single laws, nor detached facts. That antivivisectors do not put any faith in their own objection is seen in the fact that they decry the use of curare by vivisectors and insist upon ether or chloroform when they are willing to permit vivisection for policy's sake. If curare, chloroform and ether have no sameness of action that can be relied upon when administered severally to men and to animals, how do they know what the effect is on animals? Their two attitudes are mutually destructive and disingenuous. They show their lack of honesty in handling the subject. Drugs have not the same action on different men. This does not prove that we cannot tell their action on anyone. This very variation is the most important element for us to study. In the physiological study of drugs, the late Dr. Benjamin Ward Richardson showed some brilliant examples well worthy of reproduction here. They are but examples of thousands of other equally interesting ones that almost any physiologist who has pursued this line of investigation could produce. Dr. Ringer could probably match them all with many of his own equally as interesting. One of Dr. Richardson's favorite studies was anesthetics. When he was alive there were many deaths occurring from the use of chloroform. His work showed that surgeons should use ether more frequently as a safer remedy; that death may occur from chloroform when there is no discoverable heart trouble; that death is not due, as was supposed, to some fault of administration; that the danger is increased by damp weather, and that temperatures above 70 degrees F. and below 60 degrees F. increase the danger. To administer chloroform in a room too hot or too cold, or on a damp day, is therefore risky and should be avoided. To follow such advice is to save life. Already many lives have been saved by the general abandonment of chloroform and adoption of ether. This knowledge was acquired by experiments on animals. Another line of investigation pursued by him, with the same means, was that of determining the best thing to do for the accidentally suffocated or drowned. Among other things, he studied the effects of electricity in restoring those about to expire. Up to this time the drowned, the poisoned, those suffocated with gas, those suffering from syncope, were all treated to the galvanic current. This course of treatment would have been continued until this day had he not discovered that in every instance it hastened death instead of restoring life. No doubt hundreds were hastened to complete death in this way, that might have been saved had they been properly treated. Artificial respiration was tried and found to restore life where electricity had been extinguishing it. The suffering of a few animals brought knowledge to the world that saves us now from ignorantly electrocuting with mild currents those who by accident have neared the portals of death. In continuing the study of chloroform, chloral naturally came in for consideration, and it was found to kill by paralyzing the heat centers and reducing the temperature. As soon as this was discovered, the inference was highly probable that the way to restore people to life, who are in danger of dying from an overdose of chloral, is to have them breathe hot air, drink hot drinks, and have hot-water bottles packed around them. Overdosed animals so treated invariably survived, except when the dose was enormously excessive. Other animals of the same kinds, when treated to the same dose, but left without artificial heating, invariably perished. Human beings accidentally or criminally given an overdose of chloral are found to recover under the same treatment. In these days of "knock-out drops" it is well to remember this. Following the researches on chloral, came those on nitrite of amyl. This substance had been suggested by an Edinburgh dentist as a possible substitute for ammonia to stimulate the circulation in cases of syncope. Dr. Richardson took up its investigation and found that it could not be used for any such purpose, but proved that it was probably the most powerful anti-spasmodic known. This suggested its trial in strychnine poisoning, tetanus, and angina pectoris. Animals that received fatal doses of strychnine were saved by continuing to give them nitrite of amyl till the strychnine was eliminated. It has proven its efficacy in the horrors of angina pectoris, and also in those of tetanus. Among other valuable discoveries Richardson made by vivisecting, was that carbon monoxide produces the symptoms of diabetes in the healthy, and aggravates the trouble with sufferers from that disease. This means that furnace-heated houses, discharging gas into the rooms from fires where combustion is imperfect and leakage occurs, are particularly dangerous for diabetic patients, and perhaps for the healthy in the same way. He also discovered that increase of the specific gravity of the blood beyond a certain point produces diabetic cataract. Farther investigation also showed him that the uremic convulsions were not due to the urea as such, but to the heightened specific gravity that its presence produced. The proper treatment, then, for both these grave affections is thus shown to be the same, viz., that reduction of the specific gravity of the blood that can readily be accomplished by bleeding followed by hypodermic injections of water. Experiments proved the success of this line of treatment. In his experiments with ammonia he found that it would dissolve heart clots and thus save life when these form ante mortem. Since the days of Richardson much physiological work, equally as interesting and valuable, has been going on, some of which we should like to reproduce here, but space will not permit.

We shall give a single important example: It has always been supposed that when water was introduced into the stomach it was absorbed there in whole or in part. Late experiments on animals have shown this to be a mistake. The stomach has no more power to absorb water than the bladder. Peptones, sugars, and the like are dialyzed through its walls, but water must go on to the intestines. The more concentrated the food that the stomach contains, and the less water there is present, the more nourishment is dialyzed through its walls. Here we have a lesson regarding how to treat thirst in temporary obstruction of the duodenum, when water is invariably vomited after remaining a few minutes in the stomach. To give water per enema is to assuage the thirst. To persist in giving it by the mouth in quantities ever so small but aggravates the trouble. There is actually a drawing of more water from the blood. We see from this, that in distention of the stomach concentrated, and not diluted, foods are indicated, or else we must give the patient predigested albuminous substances. All these facts came to our aid by vivisection, and the reader is no doubt reminded, in this connection, that as the water is absorbed when given by rectal injections, so also have hundreds of lives been saved by the administration of food by this same channel. Until vivisection taught us that the bowel was a digesting organ, no one thought this possible. Indeed, prior to the experiments on this subject, it would have been scouted as an insane notion if anyone had had the wit to assert it.

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Urticaria

The *Province méd.* (ref. in *Jour. of Cut. and Gen.-Ur. Dis.*) recommends the following formula to relieve the itching of the disease:

Distilled Water..............	450 parts.
Cherry-laurel Water.........	50 parts.
Chloral	5 parts.
Cocaine Hydrochlorate......	3 parts.

AMONG THE EDITORS

THE CAUSE OF DEATH

The facility and accuracy with which physicians who are called in cases of sudden death, diagnose the cause of death, is a source of wonderment to the suffering public. The worst of it is that everything goes when the doctor hath said it. There are three causes of death which are seldom questioned—heart disease, apoplexy, and, when the doctor wishes to be particularly learned, heart failure. It is seldom that a person dies who does not have heart failure. The question is—Could the heart do anything else than fail if the party died? The fact is that, without an autopsy, and in some cases a chemical analysis, it is next to impossible to state with accuracy the cause of sudden death. Often the snap judgment on the part of the physician is a bit of professional presumption. A decision of this kind should never be made without a deliberate investigation or consideration, and after a postmortem if necessary.—*Med. Examiner.*

MEDICAL ADVICE IN NEWSPAPERS AND LAY MAGAZINES

Some newspapers undertake to discuss, in a general way, a series of medical topics, and give particular advice to individuals upon application. The whole plan and its tendencies are bad. For one reason, because it leads to loss of legitimate business on the part of medical practitioners. The doctor who is tempted into giving away his knowledge and advice in this way, will find his patrons trying it on, just as they do the patent medicine, or the doctor's own prescription, which did a neighbor or relative so much good, and then they will tell their friends about it, and it will go the rounds, whether it does anyone else any good or not. Another reason that this practice is deleterious, is the same as makes the patent medicine such an evil to the people, in that they are led to experiment upon themselves, while precious time is lost and the disease gains headway. Ninety-nine hundredths of the advice that is thus taken goes for naught, if it be not actually deleterious to the patient; and when used with what purports to be the qualified advice or sanction of the profession, it lowers the popular esteem of that profession and breeds contempt.—*Cleveland Med. Gaz.*

HOW SHALL PHYSICIANS PROTECT THEMSELVES?

There has been much discussion of late among our physicians, in local societies and otherwise, as to the means of protection against unjust and malicious suits for malpractice, instituted by irresponsible parties, and conducted ordinarily by impecunious attorneys "upon shares," or, to speak a little more politely, "for a contingent fee." The discussion has apparently pretty well established the fact that it is impracticable to attempt the passage through the legislature of an act requiring the plaintiff to give bonds for the payment of costs in event of failure to convict, as such an act would, the attorneys tell us, work great hardship to poor but deserving people in many instances.

It is, perhaps, not as widely known as it should be, that most of the suits brought are initiated chiefly with the idea that the doctor attacked will compromise rather than stand suit, for it is well known that the victory for the doctor means in reality only that he has not suffered quite so severely in the battle as he would have done if defeated. He is damaged in pocket, in feelings, and in reputation, in either event. In a recent suit for a large sum, an offer to settle for $300 was made by the plaintiff's attorney.

A plaintiff knowing that he had no real case, would hesitate more in suing a member of an association which would furnish him financial and moral support, than in the case of a physician not so protected.

The best method of all of discouraging unjust suits against the members of our profession, lies in the performance by every physician of his plain duty, when asked to appear against another physician in court. Without the support of some medical man, no suit will be brought that has not a proper foundation in wrongdoing of some kind by the physician attacked. We should work diligently to bring all physicians into the fold, where they may feel the ennobling influences of association with the best members of our guild, and be led to see the suicidal policy of "going it alone," without in any way helping or being helped by an organized profession.—*Colorado Med. Jour.*

THE NECESSITY OF USING PURE DRUGS

It would seem almost unnecessary to call attention in this journal to the necessity for the physician who prescribes his own medicines, or who permits the pharmacist to dispense them for him, to use the purest and best medicinal agents which the drug market can possibly afford; yet we have recently come in contact with a number of instances where physicians or pharmacists, with a false idea of economy and business foresight, purposely purchased low-grade crude drugs, or medicinal preparations, thinking that thereby they would be pecuniary, if not moral, gainers. To us such an attempt seems to be a manifestation of the most short-sighted policy. The physician's reputation depends very largely, if not entirely, upon the success which he has in the treatment of the patients who come to him for his skill, and in many instances this skill in diagnosis and therapeutics is entirely counteracted by an impure or worthless drug.

The use of such preparations by the physician can be summarized in a few words: Poor drugs bring poor results; poor results bring a poor reputation; and poor reputation brings little money.—*Therapeutic Gaz.*

A DOCTOR'S RELATION TO OTHER DOCTORS

A common occurrence to-day: We go to what we suppose is our patient and find that Doctor Q. has been there by his own cheek or the intervention of his friends, has thrown all the medicines of the other doctor through the window, and in the majority of cases has told the patient or his friends that a continuation of such treatment would have certainly caused the patient's death. Is such action on the part of one doctor to another calculated to elevate our profession in the eyes of the people? Far from it. It has almost come to the point where a doctor is looked upon as the butcher or baker, who may be changed at will; and those few who try to uphold the dignity of the profession suffer in consequence. In the case stated above, would it not have been more brotherlike for Dr. Q. to have had his predecessor notified of his dismissal than to have gone on and let his own work show his superiority rather than to make capital of his opportunity to hurt a brother practitioner by vile slander and unprofessional behavior? By the leniency of our laws, quacks claiming to do wonders fill all our larger cities, and gather around them in one short week as large a number of patients as it would take years for a professional man of merit to gather. This is brought about by advertising in our daily papers. We can do little to stop this, save by our influence on legislation, which is small; yet we can hold ourselves aloof from such human sharks and let them survive or perish according to their merits. Let us not be guilty of consulting with them or of being associated with them in any way, either socially or professionally. Let them be things of scorn, scabs, unfit to mingle with their fellow-men. In this way they would soon be ashamed of their wolfish practice and seek other ways of making a living, or gain forgiveness by bravely fighting out an honest living on equal footing with honest men.—*Southwest. Med. Rec.*

THE SURGERY OF THE COUNTRY PRACTITIONER

The surgical work of the country practitioner is varied in its scope, but it may be said that it consists to a very great extent in attention to emergencies. These may be of the most trivial kind, but they may also be of an appalling nature, such as try the souls of men, and it is often in this sort of work that the country doctor shows a power of correct and resolute decision which carries the day in the face of odds that appear to be insurmountable.

In surgery, as well as in medicine, the personal equation of the practitioner is a factor of paramount importance, and of all the elements which concur in the achievement of success, there is none of greater value than the possession of the rare faculty of so-called common sense. There was a justly celebrated surgeon in this city whose terse description of the operation for strangulated hernia is well worth remembering.

He said, "Cut through the Latin names and get to the gut." It takes but a moderate degree of skill to perform many an important operation, and a clear understanding of what is to be accomplished, with the utmost care never to cut unless you are sure of what your incision is going to accomplish, will often bring about a good result which no amount of theoretical knowledge alone could have achieved. In the treatment of fractures and dislocations, the man with a mechanical bent of mind can accomplish wonders. In the treatment of wounds, accurate coaptation of severed surfaces and a thorough understanding of cleanliness, are the most important points. It is evident that in surgery an immense amount can be done by the man of quick perception and ready understanding, and we are thankful to be able to say that it is our belief that such individuals are many and widely scattered over the land, helpful, energetic, with faculties keen and ready to bear upon the most knotty problems that may be presented by the appalling emergencies which so often suddenly arise in the practice of our country doctors.—*Internat. Jour. of Surg.*

A FIN-DE-SIECLE CURSE

Laboring men coming home tired and exhausted from a hard day's work, with a knowledge of the relief from this state to be obtained from indulgence in a small quantity of cocaine, too readily succumb to its insidious encroaches, and finally become hopeless wrecks, physically, mentally, and morally.

As to the means by which the laity are first made acquainted with the powerful stimulant effects of cocaine, the ways are many. The use of druggists' "toothache drops," nothing but cocaine in solution, is first to be mentioned as a factor, while the growing habit of snuffiing cocaine into the nares for the relief of common "colds in the head" (most popular "catarrh snuffs" being largely composed of cocaine) is also a cause of the beginning of its use by many. The recent rapidity of the spread of the habit is, however, to be credited to the information imparted to others by those confirmed in its use, of its remarkable stimulating effects. In truth it is said that some laborers will, by the consumption of a small quantity of cocaine, be enabled to refrain from eating as well as sleeping for several days on a stretch. Could anything appeal more strongly to the ignorant, indigent public, than the fact that half or one-third the sum expended by them for daily sustenance can by this means be saved?

To correct this terrible evil, which we believe justifies the title of a *fin-de-siecle* curse, legislative restriction of the sale of the drug would be the only remedy—and this, we fear, a very impotent one.—*Memphis Med. Monthly.*

DRUGS

The materia medica of present use is becoming more and more largely one of proprietary preparations. Thus, the ethical physician, and more particularly the editor, who is responsible not only to his own conscience, but to the readers of his journal, is often placed in a dilemma, in being forced to choose between what may seem like interested favoritism toward some private enterprise and what may be construed as indifference to medical progress. Glancing through a résumé of new drugs, one will scarcely find one out of ten to be genuinely new or worthy of consideration. Under attractive and misleading names, all sorts of combinations have been introduced, which the physician ought to be able to prescribe extemporaneously, if they are needed at all, and whose only object is a commercial one.—*Med. and Surg. Rep.*

A NEW ORDER

An up-to-date fraternity man has concocted a scheme which will be profitable at least to himself. The plan is as follows: There is to be an association of 300 families, each of whom is to pay $15 per year in return for all medical services. Three dollars per family goes to the manager, and the rest is divided among the physicians, of whom there are to be six. Five, we understand, are already selected—one a homeopath, one a supposed reputable physician, three are quacks—and the sixth candidate for professional prostitution has not yet materialized. The plan of the organization is to obtain a recruit from the new-comers, or from the financially embarrassed among the older men. He confidently counts on want, or cupidity, soon giving him an available man.

To prevent an unfair advantage being taken over the association physicians, it is agreed that obstetrical services are not to be included until a family has been a member over nine months. The six doctors ought to feel very grateful for this provision, else the newly married might join the organization and overwork the obstetricians. Such thoughtfulness on the part of the promoter is rarely displayed to medical men.

But, seriously, this is the beginning of the end of professional independence, unless the medical fraternity resist the innovation at once and *en masse*. For if this new organization makes the advance the next decade that the free-doctor lodges have the last, it will number 10000 families in Los Angeles within ten years.—*Southern Cal. Pract.*

OUR FOREIGN POPULATION

The medical profession, entirely aside from the heavy burden of charity to sick and injured foreigners, bears a disproportionate share of the general disadvantage of dealing with the poor, the ignorant and the filthy—classes recruited mainly from immigrants and their children. Men in other business can sell to the poor according to the means of the latter; the physician must give his best commodity to all, taking in return whatever each can or will give. The physician alone is compelled to endure a close acquaintance with the ignorant and the filthy.

Considering the various foreign nationalities, not one has a thoroughly good reputation among medical men. The typical patient of the best of all these is honest, but will pay only low rates, irrespective of individual wealth. That of another is honest and conscientious in carrying out directions, but cannot pay fair rates and is too ignorant to give the physician a fair chance professionally. Another nationality will pay if it summons a physician, but expects him to cure in one visit and will not trust to the physician's honor in determining the number of calls necessary. And the type, by the unanimous verdict of all philanthropists and penologists the worst of all, tears off the doctor's bandages, throws his medicine into the sink, refuses to pay his bill, threatens suit for malpractice, and then cajoles him into renewing his professional ministrations whenever he is again needed. —*Med. and Surg. Rep.*

ENGLISH MEDICINE IN THE VICTORIAN ERA

The English medicine of the Victorian era will well deserve the notice of the philosophic historian of the future. In effect it is a new medicine. The old-fashioned British practitioner studied the medical "art," and it was his aim always to do his work *secundum artem*. If the patient did not profit—if more, he died, the practitioner was still satisfied, in that he had done his work *secundum artem*. The modern practitioner, far from subordinating his judgment to the mere rules of an art, carries knowledge, true science, to the bedside of each individual patient, and varies his art according to the detailed condition of that patient. He tests all this work, not by its compliance, or otherwise, with the orthodox conditions of his art, but by the highest and only true standard of "results." The questions which the future philosophic historian will ask concerning the new medicine of the nineteenth century are, was it a true medicine; was it based on a true science; was the art the rational outcome of the science; was it intelligently and conscientiously practiced? If he is able to answer all these questions in the affirmative he will hardly need to ask the further question, was it productive of the best possible results? Because no other but the best possible results could follow such a medicine. The philosophic historian, we believe, will be able to answer all these questions in the affirmative, and will be able also to pronounce this general judgment—that the medicine of the Victorian era was as true as it was new, and laid the foundations on which alone all future medicine can honestly and truly be built.—*The Hospital.*

ORIGINAL PAPERS

WIDAL'S SERUM TEST APPLIED TO THE EXAMINATION OF WATER FOR TYPHOID GERMS

By W. C. ALPERS and B. L. MURRAY

IN the course of some recent experiments, involving Widal's serum diagnosis of typhoid fever, made in the bacteriological laboratory of The Merck Pharmacy, the suggestion was made that the same reaction might be of use in the examination of water. It was thought that by this means, together with some of the known methods, or perhaps a combination of methods, the typhoid bacillus might possibly be isolated and identified somewhat more surely than formerly, the time necessary for such work being quite limited.

So far as the operators' observations and knowledge of current literature on this subject go, Widal's serum reaction has been applied only to the diagnosis of disease, the method most commonly employed in cases of typhoid fever being about as follows: A sample of blood is taken from the patient and allowed to dry on sterilized paper, mica, or glass. In the laboratory, the bacteriologist adds to this dried blood a little sterile water, and mixes, upon a sterile cover glass, a small portion of it with a drop or two of a bouillon culture of virulent typhoid germs. This mixture is at once examined under the microscope, and, if the case is typhoid, motion of translation ceases, and the germs arrange themselves in little groups. Upon standing some time, the germs are said to become disintegrated. Evidence of the reliability of this test, for the purpose mentioned, is daily accumulating, and work of a similar nature is also being pursued upon other diseases. But can it not be made useful, as suggested above, in the examination of water? The subjoined experiments were undertaken as a result of this thought:

The work naturally divided itself into the following steps:

1. Inoculation of a number of samples of water with various germs.
2. Inoculation of acidified, sterile, bouillon tubes with the various waters prepared under (1).
3. Incubation, at about 37° C., of bouillon tubes, prepared under (2) for twenty-four hours.
4. Preparation of agar dilution plates from tubes (3) after incubation; eighteen hours of incubation of plates.
5. Microscopical examination of agar plates after incubation; "fishing" from colonies for new bouillon cultures.
6. Incubation, for twenty-four hours, of bouillon cultures, prepared under (5).
7. Application of Widal's reaction.

When the experiments were undertaken, no suspected waters were at hand, and it became therefore necessary to prepare some. For this purpose, a series of tubes were numbered and partly filled with the ordinary hydrant water of New York City, and then inoculated. Some were inoculated with the Eberth germ alone, some with Eberth and coli communis, some with coli communis and Emmerich, and some were left uninoculated. After taking a record of the contents of all the tubes, they were handed to another person, with the request to renumber them in a different order, taking an account of each of the numbers for future identification. The tubes were returned to the operators, to whom they were "unknown."

A number of tubes with sterile bouillon were then prepared, and most of them acidified by from one to eight drops of a solution of five parts of carbolic acid and four parts of hydrochloric acid in 100 parts of distilled water (see Sternberg's "Manual of Bacteriology," page 354), while some were left without acidification. All the tubes were then sterilized for fifteen minutes by steam, cooled, and inoculated with the various germ-sown waters, as prepared above.

The third step was the incubation of these inoculated bouillon tubes, together with some that were neither inoculated nor acidified. This process was continued without interruption for twenty-four hours at a temperature of 37° C. At the end of this time most of the tubes had become cloudy, a few remaining clear.

As the fourth step of the experiments,

dilution agar plates were made from each bouillon tube, including those that appeared clear and free from germ growth at the end of the twenty-four hours of incubation. All these plates were then incubated for eighteen hours, when some showed the development of colonies, while others remained without growth. These latter were later again incubated for three days, but remained sterile, with the exception of one plate in a certain dilution, doubtless caused by contamination.

The fifth step was the microscopical examination of the agar plates, and the preparation of fresh bouillon tubes by "fishing" from the plates. Here the possibility might arise of skipping the typhoid colonies, whenever more than one kind of colony is present. But no difficulties were encountered, only two different colonies being present, the identification of which was not necessary for the purpose at issue. However, to feel more assured, not less than six "fish" were taken from each plate. Individual experience will, of course, determine this point.

The next (sixth) step was the incubation of these fresh bouillon tubes, which was done for twenty-four hours, when they were considered ready for the final (seventh) step —application of Widal's test. A sample of blood was used from a case previously diagnosed as typhoid by the serum reaction; it had been taken from the patient at the third or fourth day of the fever, and was about a month old; meanwhile the patient had been reported actually to have typhoid. In place of the "virulent Eberth germ in bouillon culture about twenty-four hours old," which is used in the application of the serum reaction for diagnostical purposes, the growth in the "fish-tubes" from the suspected colonies was employed.

At the end of the experiments, all the details and results of each successive step were tabulated and compared with the record of the contents of the original inoculated waters, with the following results:

The tubes which, after incubation, as stated under (3), remained clear, contained only hydrant water and six drops of acid solution, while all the tubes containing the Eberth, or commonly accepted typhoid germ, some with three and some with four drops of acid solution, clouded. One tube, containing water germs, bacilli of Emmerich, bacilli of coli communis, and eight drops of acid, remained clear. Another tube, neither inoculated nor acidified, showed abundant growth, indicating the presence of numerous water-germs.

These observations justify the statement that the carbolic-hydrochloric acid solution retards the growth of most of the germs present; but it cannot be said, from the observations, that *only* the Eberth is allowed to grow. As to the final identification, one sample, containing the Eberth germ alone, was, in one case, on the first examination, pronounced not typhoid; translation ceasing, but no clumping appearing. The same mounts, twenty-four hours later, showed the disintegration, but still not the characteristic clumping. Another Eberth, with coli communis in original sample, was immediately identified. The other samples offered no difficulties, and were determined correctly. The time for the clumping and cessation of movements occupied from one to three hours; but this duration perhaps depends to some extent upon temperature and the sample of blood. Other samples will be used, and further investigation is intended.

The suggestion might be made to apply Widal's test immediately after the incubation of the bouillon tubes (3), and thereby avoid the tedious work of preparing and incubating the agar plates and "fishing" from colonies. But this experiment will not succeed on account of the acidification of these tubes, Widal's test being inapplicable to acid solution. To further verify that fact, sterile water was inoculated with the Eberth germ, and an acidified sterilized bouillon inoculated with the water. Applying Widal's test to this bouillon, no reaction occurred. On the other hand, the omission of acidification would produce such a variety of colonies of the various germs, that will always be present in typhoid-suspected water, that no reliance could be put in the test.

From the limited experiments thus far undertaken, it would appear that Widal's test may become of use for the detection of typhoid germs in water. Much work is still necessary in this line, especially upon suspected waters. But it appears to be a good confirmatory test to be used in connection with the various others.

New York.

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Non-Specific Character of the Erysipelas Streptococcus

In the course of researches on the experimental inoculation of erysipelas, for the purpose of combating certain cancerous tumors, Dr. J. Petruschky (*Zeit. f. Hyg. u. Infect.*, XXIII, No. 1; ref. in *Med. Week*, V, No. 2) has had occasion to ascertain additional facts, corroborative of those to which the writer has previously called attention. His early researches had shown that the streptococcic infection varied extremely, not only clinically, but experimentally.

In several patients, suffering from cancer, various attempts at inoculation with cultures of the streptococcus from a case of erysipelas, remained without result, and the author, therefore, endeavored to increase the virulence by successive passages through mice and rabbits. The inoculation, even when large doses were used, produced no effect; it appeared as if, in proportion as the virulence of this streptococcus increased in respect of the rabbit, it decreased in respect of human subjects.

The author formulates his conclusions as follows: (1) erysipelas supervenes only when the inoculation has been made into the lymphatic spaces in the skin or mucous membranes; (2) the virulence of a given streptococcus is not the same in man as in rabbits; (3) the resistance of an inoculated subject varies greatly—a fact which explains the different results obtained. For this reason it is necessary to exercise great care in producing experimental erysipelas in human subjects; when one proposes, for instance, to inoculate erysipelas in cancerous patients, a streptococcus derived from a human source should be employed, and if the inoculation at first is negative, cultures from mild streptococcic affections should be used before recourse is had to more virulent ones; (4) the previous existence of other diseases exerts a modifying influence on the receptivity of a subject, in respect of the streptococcic infection; diphtheria, scarlatina, tuberculosis, smallpox, and typhoid fever apparently reduce the degree of resistance of a patient suffering from one of these affections, whereas, on the other hand, cancer and sarcoma appear rather to increase it.

SELECTED PAPERS

THE RAPID DIAGNOSIS OF THE LOEFFLER DIPHTHERIA BACILLUS*

By FRITZ SCHANZ, M. D.,
Ophthalmologist, Dresden

(*Translated for the* AMERICAN MEDICO-SURGICAL BULLETIN)

THE conviction that in antitoxin we possess a specific remedy which protects the human organism against the injurious effects of Loeffler's diphtheria bacillus, must naturally give rise to the desire to recognize the affection caused by this micro-organism as quickly as possible before the clinical symptoms permit a conclusion as to its presence. Furthermore, the fact that the clinical picture of diphtheria is manifested by affections which have no connection with the Loeffler bacillus, and which, according to Fraenkel, we designate as "cocci diphtheria" in contradistinction to "bacillus diphtheria," must also urge us to as quickly as possible demonstrate the Loeffler bacillus in order to avoid unnecessarily subjecting patients to the treatment which is specific against the Loeffler bacillus alone. The latter point may now deserve especial attention since Barth[1] has shown that there can be no doubt that toxic action occasionally accompanies the administration of antitoxin.

The need of recognizing the Loeffler bacillus as quickly as possible exists not only in the great institutions which have been provided with bacteriological laboratories for this purpose, but also among practicing physicians. In order to meet this need in practice, examination stations have been established in various localities, to which physicians can send the material obtained from patients suspected of diphtheria. This material is at once examined, and the physician informed of the result of the examination as speedily as possible. This method presupposes that the Loeffler bacillus can be diagnosed with certainty in at least twenty-four hours. At the present time, however, it is to be feared that this presupposition

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*Published in the *Berliner klinische Wochenschrift*, 1897, No. 3.

[1] "Die Nebenwirkungen des Diphtherieheilserums," *Deut. med. Woch.*

cannot be fulfilled. There can no longer be any doubt that there are bacteria wholly similar to the virulent diphtheria bacillus, which are widely distributed and have nothing to do with diphtheria. In a discussion at the Medical Society at Griefswald, Loeffler himself stated that very frequently there occurred in the oral cavity a saprophyte which it was difficult to distinguish from the avirulent diphtheria bacillus. From the short report, it cannot be determined whether by "avirulent" Loeffler means the "pseudo-diphtheria bacillus," which, according to the description given us by Hoffman and Loeffler, is distinguished from the genuine diphtheria bacillus only by the size of its colonies, and by the fact that it does not render alkaline bouillon acid in the same length of time as does the virulent form. Neither one of these points of distinction can be accepted at the present time; but even if they could be relied upon, the differentiation could certainly not be made in twenty-four hours. That this saprophyte must be very widely distributed is admitted by both Loeffler and Hoffman. For example, Hoffman found it 26 times in 45 oral cavities examined with this object in view; *consequently, he designates it as a constant inhabitant of the oral cavity.* That this declaration is true is shown by the statements of Roux and Versin, who designate the pseudo-diphtheria bacillus as avirulent Loeffler bacillus; they found it 15 times in 45 healthy children, and in 59 children from a sea coast village in which no diphtheria existed, 26 times. Bech found it 26 times in 66 children, 5 times in 17 cases of follicular angina, and 9 times in 14 cases of catarrhal angina. Judging from the uniformity of these results, there can scarcely be any doubt that the pseudo-diphtheria bacillus is one of the most frequent micro-organisms of the oral cavity, and that it can be found in the mouth of almost every second child. What value can be attached to a method with which, within the required time of twenty-four hours, it is impossible to distinguish the genuine diphtheria bacillus from a constant inhabitant of the oral cavity?

The most extensive report upon the value of this method of examination is furnished us by Dräer[2], who publishes the results of 400 such tests made in the Hygienic Institute of Koenigsberg. He states that an experienced operator can readily distinguish the pseudo-diphtheria bacillus from the genuine diphtheria bacillus. His opinion, however, is based upon but twelve animal experiments. He attaches but little importance to the test of virulence, because it is known that, under certain circumstances, even the genuine diphtheria bacillus may also undergo such a reduction in virulence as to render animal experimentation with them negative. Dräer, therefore, distinguishes the virulent diphtheria bacillus which has become non-virulent, from the pseudo-diphtheria bacillus. It would be of great service to us if we would state the points of difference by which he was enabled to distinguish them. Prof. C. Fraenkel[3] has shown that, aside from virulence, there is at present no essential difference between the pseudo-diphtheria bacillus and the genuine diphtheria bacillus, and that we, with the French, should designate the pseudo-diphtheria bacillus as avirulent diphtheria bacillus, especially as there is a possibility that the one can be transformed into the other. Recently Trumpp[4] succeeded in transforming non-virulent bacilli into virulent. Many observers, following the precedence of Martin[5], look upon the size of the bacilli as characteristic of their virulence. My researches upon the non-virulent Loeffler bacilli in the conjunctival sac have shown me that this feature cannot be relied upon; we find in the conjunctival sac very long bacilli possessing all the characteristics of the Loeffler bacillus, and these are non-virulent.

Recently, Spronck[6], of Utrecht, sought to find points of difference between the genuine Loeffler bacillus and the non-virulent bacillus in the conjunctival sac, which ophthalmologists formerly considered to be the etiological factor in xerosis. He admits the similarity of these micro-organisms in culture and preparations, and endeavored to find a new means of differentiating them, namely, by aid of the specific action of diphtheria antitoxin. He was led to this by his researches upon the bacillus which the French designate as the short, non-virulent Loeffler bacillus (*bacille court*). These bacilli were found to be weakly virulent—1 c.c. of a 24-hour bouillon culture produced edema in the neighborhood of the point of injection; 2-3 c.c. caused transitory general phenomena: loss of appetite, bristling of the hair, loss of body weight, relaxation. Guinea-pigs which were previously treated with relatively large doses of anti-diphtheritic serum were absolutely *not* refractory to this weakly virulent bacillus, while much smaller doses of the same serum sufficed to render innocuous the above-named quantities of a fully virulent culture of diphtheria bacilli. Spronck also tried this method of testing upon the xerosis bacillus, which he had cultivated from three cases of xerosis offered for this purpose. In this connection he refers to my publication[7], and reports that he was able to determine a constant but slight virulence in his bacillus, as I had done in one case—1 c.c. of a 24-hour bouillon culture, given to a medium-sized guinea-pig, caused edematous swelling, which was most pronounced about twenty-four hours after injection, and which usually disappeared in forty-eight hours by absorption; after subcutaneous injection of 2-3 c.c., this edematous swelling was much more intense, and slight general phenomena also appeared: loss of appetite, languor. The animals soon recovered and subsequently remained healthy.

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[2] *Deut. med Woch.*, 1896, p. 279.

[3] *Berl. klin. Woch.*, 1893, p. 252.

[4] *Centralbl. f. Bact.*, XX, No. 20.

[5] *Ann. d. l'Inst. Pasteur*, 1891, p. 335.

[6] *Deut. med. Woch*, 1896, p. 571.

For those who have made a special study of the xerosis bacillus, this *constant* reaction must be surprising. The researches upon the xerosis bacillus and its pathogenesis were carried out at a time when no one thought its similarity to the diphtheria bacillus would ever have any significance. At that time all workers came to the same conclusion, namely, that the bacillus was not pathogenic. However, at that time also, an animal now and then manifested a slight reaction; but this reaction was not constant, otherwise it would certainly not have escaped the attention of numerous investigators, and, when it occurred, it rapidly disappeared, so that it was not considered sufficient to stamp the bacillus as pathogenic.

After Fraenkel had found that by increasing the dose a reaction was also obtained from the mildly virulent bacilli, I also increased the dosage in the experiments mentioned, and secured the reaction which Spronck speaks of. At that time I conducted a further series of experiments with the same bacillus, with the object of increasing the virulence; but no such constant result was obtained as, in my opinion at least, would warrant its being considered a reliable criterion for such a test as Spronck mentions.

On the contrary, it appears to me that a new proof of the intimate relationship of both these species of bacteria can be brought forward. In the *Hyg. Rundschau*, Prof. C. Fraenkel reports a morphological peculiarity of the diphtheria bacillus. He found that in fresh cultures there sometimes occur forms which can only be interpreted as genuine ramifications. These forms occurred chiefly in growths on egg albumin, upon which a kind of "giant growth" showed itself. Here were observed branchings which appeared as minute buds, most commonly sprouting at right angles from the middle of the rod. On further cultivation, crutch-like forms appeared, and when the ramifications progressed still further, forms developed which remind one of a large H of Latin print. J. Bernheimer and C. Folger[8] report the same findings and also present a number of illustrations. All of these forms can also be found in the non-virulent bacilli of the conjunctival sac, as I was able to convince myself at the time of my last research upon the etiology of pseudo-membranous conjunctivitis[9]. Here I found the most beautiful branchings in cultures grown upon both egg albumin and washed-out blood fibrin. This branching must be interpreted as the expression of characteristic processes of growth; and that these morphological peculiarities are manifested in like manner by both species of bacteria, appears to me a proof of mutual relation. These branchings in the non-virulent bacilli have also been observed by Kanthack and Babes[10].

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[7] *Berl. klin. Woch.*, 1896, No. 12.

[8] *Centralbl. f. Bact.*, XX, p. 1.

[9] Knapp and Schweigger, *Arch. f. Augenheilk.*, XXXIII, p. 224.

The more one studies the pseudo-diphtheria bacillus, the more convinced he is of its great similarity to the genuine diphtheria bacillus; and at present there is no reliable means of differentiation other than the test of virulence. By this we do not, of course, mean to say that both bacilli must be identical; any day may bring us unquestionable proof that both bacilli are different, and but members of a natural family; at present, however, this family has by no means been definitely recognized. So long as this state of affairs exists the bacteriological diagnosis, especially when it is conducted without reference to virulence, can hardly have any great value, particularly in a diagnosis which is made within twenty-four hours.

BACTERIOLOGY OF THE NASAL MUCUS IN CASES OF CHRONIC NASAL DISCHARGE*

By EUGENE LAURE VANSANT, M. D.,

Professor of Diseases of the Throat and Nose in the Philadelphia Polyclinic; Laryngologist to Howard Hospital

ALTHOUGH a full report of the following investigations will be published later, it may perhaps be of interest to those present to hear a brief report of the results obtained. The patients included in the investigation all had one thing in common, namely, a chronic nasal catarrh; none of them was subject to any acute febrile affection, but all were simply the walking cases that I see daily in my office and at my service in the Polyclinic and Howard Hospitals. Great care was exercised in their examination to exclude all that showed any of the well-known clinical signs of diphtheria. The bacteriologic examinations were made by Dr. W. J. Gillespie, and, in the more important cases, were afterwards reviewed by myself. The examination embraced 113 cultures of specimens taken from 100 different patients. Of these patients, twenty-five suffered with chronic atrophic rhinitis; thirty-one, with chronic hypertrophic rhinitis; fourteen, with chronic rhinitis; sixteen, with chronic purulent rhinitis; seven, with nasal syphilis; two, with disease of the accessory sinuses; four, with acute rhinitis; one with fibrinous rhinitis.

The bacteriologic examination shows the presence of diphtheria bacilli in no less than thirty of the cultures examined, these cultures representing the discharges found in twenty-six different patients. In four additional cultures (obtained from three patients), organisms closely resembling diphtheria bacilli were present. In fifty-eight cultures staphylococci were found. Of these seven were recognized as staphylococcus aureus; five as staphylococcus albus; one as staphylococcus citreus. The great majority of the cultures contained many diverse forms of organisms, such as bacilli, cocci, diplococci, etc. Leptothrix was found in four, bacillus subtilis in six, and yeast-cells in two of the cultures.

Of the twenty-six patients with diphtheria bacilli in their nasal secretions, eleven were cases of chronic atrophic rhinitis; three were cases of chronic purulent rhinitis; five were cases of chronic rhinitis; three were cases of nasal syphilis; one was a case of acute rhinitis; and three were cases of hypertrophic rhinitis.

For each disease examined, the number of cases with diphtheria bacilli was as follows:

Eleven of twenty-five cases of atrophic rhinitis; three of sixteen cases of chronic purulent rhinitis; five of fourteen cases of rhinitis; three of seven cases of nasal syphilis; one of four cases of acute rhinitis; three of thirty-one cases of hypertrophic rhinitis; none in two cases of disease of the accessory sinuses; none in the one case of fibrinous rhinitis.

The following clinical histories were obtained in some of the cases in which diphtheria bacilli were present:

John McM., aged sixteen, a storeboy, consulted me in November, 1896, complaining of nasal obstruction and muco-purulent catarrh, with post-nasal dropping. He stated that the catarrhal symptoms had existed for about six months; but, although his general health had been below the usual standard, at no time had there been fever or symptoms of any acute disease. Upon examination of the nose, it was seen that the cartilaginous septum was deflected to the right, producing stenosis, with marked obstruction; while on the left side, the lower turbinal was hypertrophied. Both nasal chambers contained considerable muco-purulent secretion. There was also a chronic granular pharyngitis and some slight enlargement of the tonsils. Cultures were made from the nasal secretion, and the bacteriologic report was that it was almost a pure culture of diphtheria bacilli. Upon investigation it was found that a younger sister of the patient had had diphtheria four months previously, and, furthermore, that different members of the family (which comprised ten children whose ages ranged from a few months to nineteen years of age) had all suffered more or less from nasal catarrh and sore throat during the summer and autumn. This information led me to decide to make further examination. Six members of the family were examined and cultures were taken from their nasal chambers, with the following results: One, a schoolgirl of eight, was found to have chronic purulent rhinitis, with muco-purulent secretion. Bacteriologic examination showed "a few diphtheria bacilli in involution forms." Another, a girl aged nine, was found to have chronic purulent rhinitis, with muco-purulent nasal secretion. Bacteriologic examination showed "staphylococci, numerous leptothrix threads, and numerous small bacilli." Another, aged eleven, also a schoolgirl, was found to have chronic purulent rhinitis, with beginning atrophy and muco-purulent nasal secretions. The bacteriologic report was: "staphylococci and long, slender bacilli." A fourth member of the family, aged six, a schoolboy, had purulent rhinitis, with beginning atrophy and muco-purulent nasal secretion; also subacute follicular tonsillitis. The bacteriologic report was: "large heavily stained bacilli resembling diphtheria bacilli in form." The mother, aged forty, showed fibrinous rhinitis, with a thick, white membrane clinging to both sides of the septum, with muco-purulent nasal secretion; the mucous membrane of the pharnyx was reddened and congested, but free from pseudomembrane. The bacteriologic report stated "staphylococci and small irregularly stained bacilli." The mother relates that all of the children had been in good health previous to last July, but that since then they had been continually suffering from a catarrhal condition of the nose and throat. All of the children examined were weakly, listless, and anemic, but at no time, during the past six months, had any of them suffered from an acute illness.

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[10] *Centralbl. f. Bact.*, XX, p. 296.

*Read before the Philadelphia County Medical Society, Jan. 27, 1897.

Lizzie C., aged thirty-eight, a mill-worker, sought relief for chronic nasal catarrh, complaining of the formation of crusts, with thick muco-purulent nasal secretion, the duration of the symptoms extending back many years. Examination showed an advance atrophic rhinitis. The lower turbinals had completely disappeared; the middle turbinals were enlarged, congested and polypoid. The pharnyx was dry and glazed, and its mucous membrane atrophied, but no membranous deposit could be seen anywhere. The bacteriologic report was: "Typical culture of diphtheria bacilli." Questioning and investigation failed to reveal the source of infection. The patient had no symptoms of any acute condition, and all the members of the family were well. This patient was kept under treatment for some months. Cultures were taken from the nasal mucus at different intervals, and with the exception of a time when certain local treatment was being applied, the diphtheria bacilli persisted. Each bacteriologic examination gave the same positive results.

Mr. P., aged thirty-five, a grocer, consulted me six years ago, suffering from constitutional and nasal syphilis. The lower and middle right turbinal bones had been exfoliated. The left nostril was normal. The patient's health at the time was very poor, and he had lost forty pounds in weight. Appropriate treatment, however, soon restored him to his normal weight, his general health improved, and he discontinued his visits, except at long intervals. Last September, he returned, complaining of poor health, with pain in the region of the frontal and ethmoid sinuses, and reported a loss of fifteen pounds in weight. Examination showed the right nasal chamber filled with crusts and muco-purulent secretion. The lower and middle turbinal bones, as before stated, had been exfoliated. The chamber was very large and some uncovered bone could be detected in the region of the ethmoid cells. Cultures were taken from the nasal chambers, and the bacteriologic report was: "A typical culture of diphtheria bacilli." Inquiry revealed no source of the diphtheric infection. The patient was placed on active syphilitic treatment, and again rapidly regained health. Cultures were made from time to time from the nasal mucus, and diphtheria bacilli repeatedly found.

Many of the other patients with diphtheria bacilli in their nasal secretions gave somewhat similar histories to those just cited.

It is not my intention to discuss in this paper the specific virulence or non-virulence of the diphtheria bacilli found in such a large number of these cases. Some experiments with cultures of several of the patients are about to be made upon animals, and may perhaps throw some light upon this point.

A number of interesting thoughts, however, arise upon contemplating the results already obtained by this investigation, and some of these may be said to be positively demonstrated. Thus, it would seem proven that in a large percentage of cases of chronic nasal catarrh, the secretions are infected with diphtheria bacilli, staphylococci, and other bacteria.

The importance of this fact in surgical procedures upon the nose, throat, and adjacent parts, particularly the eye, is evident. Certainly, the surgeon should precede such operations by a clinical and bacteriological examination of the nasal chambers, and, when necessary, institute treatment to remove the nasal infection. Such treatment should include very strict disinfection of the nasal chambers, and I would state that in most cases I had no difficulty in quickly effecting this purpose, although for a permanent removal of the germs, treatment must be continued for some time, as in a number of cases, after stopping the local treatment, the diphtheria bacilli were found to return and were recognized in the cultures. The diphtheria bacilli were chiefly found in cases of atrophic rhinitis, chronic purulent rhinitis, and nasal syphilis—in other words, where a pathologic condition of the nasal chambers, with altered and morbid mucous secretions, continues for a considerable length of time, thus offering a suitable soil for infection, not only by the diphtheria bacilli, but by many other germs, as ascertained by the bacteriologic investigation. Now, it is well known that in such cases we frequently find several members of the same family affected with the same disease, and although certain inherited and acquired constitutional dyscrasiæ underlie such conditions, yet we are impressed with the great importance, not only of disinfection, but also of avoidance of infection to others. From this point of view, the common use of a handkerchief among the children of a family, such infected children sleeping with healthy ones, or the indiscriminate kissing of children, may be mentioned only to be unreservedly condemned.

In all the cases in which the diphtheria bacilli were present, the patients were observed to be in ill health, being listless, pale, and anemic. It was also observed that, after treatment was instituted, not only the local condition, but also the general health greatly improved. It may, therefore, be possible that in such cases there is a slight chronic toxemia caused by the nasal condition. Further, it is quite probable that such diphtheria-infected nasal secretions may account in part for the present wide spread of diphtheria—indeed, several instructive instances have come under my notice. It is to be hoped, therefore, that the proposed investigation upon animals to determine the virulency of the bacilli will aid in forming some positive decision. In conclusion, it gives me great pleasure to acknowledge my indebtedness to Dr. W. J. Gillespie, whose careful and painstaking laboratory work alone enabled me to collect the material for this report.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

JOSEPH P. WINSTON, M.D., GEORGE E. WEST, M.D.,
W. J. ROBINSON, M.D.

Carbon Disulphide Poisoning

Stadelmann (*Berl. klin. Woch.*, No. 28, 1896) had the opportunity to observe three cases of chronic poisoning by carbon disulphide, taking place in a vulcanite factory. In addition to the symptoms of extreme digestive disorders, there were tremor, giddiness, ringing in ears with poor hearing, inability to sleep, muscular weakness, trembling, more or less marked ataxia, strong increase of mechanical muscular irritability, disturbances of sight and sensibility, Romberg's symptom, incontinence of urine, and sexual impotence.

Cholera Infantum Treated with Serum

Dr. Lesage, in *Rev. de Ther. med.-chir.* (Dec. 15, 1896), says the last few years have greatly enriched our knowledge of the cause of digestive infections in nursing children. That fermentation of milk by microbes is the direct cause, is practically demonstrated by the fact that these infections have lessened in the exact ratio that the process of sterilization has become general.

Leaving out all other forms of treatment, we shall here consider only the employment of injections of blood-serum. A child taken with digestive infections is best treated as follows:

1. Sterilized milk diet, and nothing else.
2. Give the child water to drink, containing albumen, medicated, if necessary, by addition of calomel, bismuth, etc.
3. If patient is very bad, whether as to general symptoms, or only as to digestive disturbances, give hypodermic injections of artificial serum, or blood-serum.

Injections of Artificial Serum.—These are of two kinds: Injections in large quantities, and injections in small quantities. Each kind has its own indications.

(*a*) Large injections.—As Cantani did first for cholera in 1885, we inject into the subcutaneous tissues a quantity of liquid large enough to take the place of that lost by the intestines. Professor Hayem obtained excellent results in similar cases by injecting directly into the veins. In Cantani's injections into the connective tissues, 4 to 6 liters of artificial serum were used for an adult. This method has since been used for grave hemorrhages, infections, and cramps. Before that, none had tried such injections for very serious cases of cholera infantum. Luthon (Rheims), in 1884, was the first. He wrote: "We injected into these poor little beings, given up to die, this saline solution in a dose of 5 gme., and had the satisfaction of saving them in spite of the unfavorable prognosis." In 1888, Weiss injected the larger dose of 30 to 50 gme., and saved several cases of cholera infantum. In 1892, Wild, of Heilbronn, gave his own child, seven months old, on the point of succumbing to an attack of cholera infantum, six injections of 25 gme. each, and saved the child. In the same year, Demiéville injected 120 to 150 gme. into a child 4½ months old, and cured it of cholera infantum in two days. In 1890-93, Hutinel made especial investigation of these injections, which are recorded in the works of Thiercelin and Marois. In 1896, Picot gives a case of collapse in cholera infantum cured by serum injection.

Since the above cases, these injections have become common practice. In his own practice, for several years, the author has obtained marvelous and unexpected results from them, overshadowing all other treatment. As soon as a child is seized with free, watery diarrhea and tendency to coldness, he does not wait for algid collapse to set in, but he suppresses all food and injects serum. Medicines for the bowels come later. He employs one of these two solutions:

1. Sod. Chlorid	7 gme.
Aq. Distil. Steriliz.	1000 gme.
2. Hayem's Solution :	
Aq. Distil. Steriliz.	1000 gme.
Sod. Sulphat	10 gme.
Sod. Chlorid	5 gme.

The injections are made antiseptically, either in the belly or in the buttocks, or more deeply still, in the muscular tissues. Then the place is massaged several minutes to assist absorption. Three to six injections of 30 c.c. each are given daily. They enter the circulation, make up for the loss by diarrhea, and exert a stimulating influence. They are indicated in the algid type of watery diarrhea.

(*b*) Injections in small doses.—In doses of 5 c.c. the end sought is quite different. They increase the blood-pressure and stimulate the organism. They have been used for adults in neurasthenia, tedious convalescence, and post-operative shock. Chéron and Debove noticed, also, slight rise of temperature. Hutinel has observed "an increase of vascular tension and of the secretions, a notable increase of the number of red blood corpuscles, and an increase in the excretion of urea." The indications for their use are impoverishment, cachexia, atrophy of the child, with chronic, dragging diarrhea.

In cases where we wish to increase the energy of the organism, the density of the liquid is of more importance than its quantity. Thiercelin gives, with good results, one or two hypodermic injections a day of Hayem's solution, or of Chéron's solution, which is especially good for these weak injections, and is as follows:

Acid Carbolic............	
Sod. Chlorid....................	
Sod. Phosphat..................	
Sod. Sulphat.................āā	1 gme.
Aq. Distil......	100 gme.

The physiological effects of these injections should be closely watched, lest the limit of useful stimulation be passed. Thiercelin says: "We have seen debilitated infants rapidly increase in weight, owing to these injections, with whom, when they were too long continued, a restless excitation, crying, and insomnia were produced, which disappeared as soon as the injections were stopped—an undoubted overstimulation having been produced." The indication for discontinuance is the normal resumption of function. Too long continued, the child becomes pale, and presents slight edema of the limbs and lids, and takes on a cachexia like that of Bright's disease. Yet the urine shows no change. The lymphatic overstimulation and the cachexia may be accompanied by increase in the size of the various lymphatic glands, which also become soft as they enlarge. This functional hypertrophy of the lymphatic system seems to have no tuberculous character; for the glands become smaller again when the injections are stopped.

To sum up: We should use these injections only in limited number and stop when the desired effect is obtained, so as not to bring on overstimulation of the organism and overwork of the lymphatics. Besides, in children with the latent possibilities of tuberculosis, they may awaken that disease.

Inconveniences of oft-repeated light doses.—Hutinel has demonstrated the power of the serum thus given children of confirmed or latent tubercular constitution, to cause febrile action, 1° to 2.5° C., the thermic curve being identical with that of tuberculosis; whereas in others it causes either no rise of temperature, or less than .5° C. The rise commences toward the sixth hour, generally reaching its height at the end of the twelfth, and remaining there three or four hours.

Again, they sometimes induce peritubercular congestions, especially noticeable in bones, glands, and the skin, but also probable in tuberculous viscera.

From the study of 176 children, he makes the following deductions:

"If hypodermic injections of serum, or of saline solutions *of the proper strength*, may occasion fever in healthy children, in tuberculous children the *smallest* doses rapidly give rise to fever."

"These febrile reactions are sometimes accompanied by inflammation around tubercles."

"Their intensity may reveal the existence of latent tuberculosis, without being a pathognomonic sign of it."

The writer used hypodermic injections of artificial serum in fourteen cachectic children with pulmonary bacillary lesions. In all, he produced a permanent aggravation of the initial state, so that he has not hesitated to reject completely this method of treatment for all such cases. Where latent tuberculosis exists, with no visceral change evident, but the child is cachectic, has a little diarrhea, and shows glandular nodules in the armpits and groins, experience has shown that these cases of simple polyadenitis are tuberculous, and, when injected repeatedly with small doses of artificial serum, give rise to pulmonary lesions. If the child presents no trace of polyadenitis, the injections are indicated, provided the viscera are also healthy; but every lesion, however small, pulmonary, or lymphatic, is a contraindication.

Injections of Blood-Serum.—Reinach, instead of using the artificial serum, employs plain horse-serum, i. e., normal blood-serum. He gives daily hypodermics of 10 to 20 c.c., which produce exactly the same quality of stimulation on the lymphatic and general system as the artificial serum, only causing greater change in albuminoid matters and larger elimination of urea. Twenty c.c. of blood-serum (Hoppe-Seyler) contain 1.5 gme. of albumin, which corresponds to 50 gme. of cow's milk and 150 gme. of mother's milk.

Thus, the end of these injections, whether of artificial serum or of normal blood-serum, is to stimulate the organism, to gain time, and to permit of reaction against the digestive infection.

The question arises: Can we obtain a specific serum of infant diarrheas analogous to that of diphtheria? Our author's researches have given good results. In another work he has shown the following facts:

1. In fermenting milk, the fermenting agent is nearly always the bacterium coli.

2. In twenty-eight out of 100 specimens of fermented milk, this bacterium coli

was endowed with the quality of active virulence.

3. These virulent specimens kill small guinea-pigs (under 200 gme.) in the dose of 1 c.c. of the milk, the active agent being bacterium coli.

4. This virulent bacillus, isolated from this milk, kills the guinea-pig unfailingly in twelve hours in the dose of ⅔ c.c. of bouillon in twenty-four hours (at 37° C.); peritoneal septicemia.

5. No other microbes that are found in these potent specimens of milk, when isolated, possess any virulence; and none is noxious even in strong dose.

6. The fermented milk of the remaining (seventy-two out of the 100) specimens, containing the normal, non-virulent bacterium coli, does not kill guinea-pigs even in enormous doses (10 to 15 c.c.); at the same time the milk undergoing the same fermentation, but containing the virulent bacterium coli, kills in the dose of 1 to ⅔ c.c.

7. These twenty-eight virulent specimens had produced digestive infection in children. From this diarrhea was isolated the bacterium coli having the same virulence as that from the milk.

8. No other microbes from these diarrheal discharges possessed any virulence.

Thus we are authorized to think of the harmful action of the bacterium coli in milk. It is but a step further to seek to produce with this particular bacterium coli, an *anti-coli* serum. Without entering into the details of the bacteriological researches on the anti-coli serum which others (Golgi, etc.) have made, it is stated that by means of the bacterium coli isolated from virulent milk and from the diarrhea of the nursling, we can obtain through preparation of the animal (the ass), a serum that possesses particular specific qualities, which normal blood-serum does not possess. The same results were not obtained by immunizing the animal with cultures of virulent bacterium coli from the adult and the normal bacterium coli from the nursling.

To study on animals the action of this serum, we must take little guinea-pigs of a weight less than 300 gme. Those of greater weight give no result, for they are refractory to the virulent bacterium coli of the nursling. If we inoculate into the peritoneum ⅔ c.c. of a bouillon culture of this bacterium coli (twenty-four hours at 37° C.), the animal dies invariably in twelve hours of a septicemia due to this microbe. If another guinea-pig of the same weight is injected in the same manner, and within an hour afterwards is injected with ⅓ c.c. of anti-coli serum, the animal does not die. In half of these cases the animal gets well; in the other half it lives ten to fifteen days—a notable abatement of the severity of the infection.

If, in place of making use of the anti-coli serum, we employ the normal blood-serum, or the artificial serum, the animal dies like the one in evidence. There seems, then, to exist in this serum, prepared with the selected bacterium coli, an action which resists, or diminishes, the infection from the bacterium coli.

The same result is obtained if, in place of employing the bacillus separated from milk, we use the milk. The serum prevents the harmful action of this milk, which likewise kills in twelve hours by the same septicemia from bacterium coli.

Although the peritoneal method is not experimental, it gives us clear and reliable teachings which the digestive method is far from offering. The author studied, with Legrain, the action of this serum on fifty-two children taken with grave cholera infantum, using no other treatment. He has separated from their stools the same virulent bacterium coli. The dose was 5 c.c., sometimes repeated the next day. Here are the results:

Twenty-six times the morbid phenomena ceased in forty-eight hours.

Forty times he obtained a well-marked diminution of the signs of infection and of the diarrhea, the child returning to good health in five or six days thereafter.

Twelve times the result was nil.

In every case where the diarrhea was green, acid, and bilious, the injections *immediately* remove the greenness. This fact is important, for it shows a manifest action of this serum on the liver. We know, in fact, that each onset of the intestinal infection is accompanied by overactivity of the liver and a very abundant production of bile.

As we see it, in the light of this experience, this anti-coli serum has a manifest action. Of course, it is far from being perfect and giving constantly happy results, but it gives a good augury. We may expect, by study, to obtain a more active serum, and, consequently, a more specific one.

An Unusual Type of Dry Pleurisy

Within the last two years, Dr. E. Koll (*Med. Week*, V, No. 2) has observed in Dr. von Leuhe's clinic, upward of thirty cases of a peculiar variety of dry pleurisy, which, considering its localization in the culs-de-sac or sinuses of the pleura, and its evolution, he is inclined to look upon as an independent morbid type. This form of pleurisy may be mistaken for a gastric lesion, such as round ulcer, and acute or chronic catarrh, or for pericarditis, intercostal neuralgia, or diaphragmatic pleurisy, with which it is, in fact, sometimes associated.

The onset of the affection, in the majority of cases, is sudden, without obvious cause, it being ushered in by fever, and other constitutional symptoms, which give it the character of an acute infection. In two patients only, it appeared to be connected with articular or muscular rheumatism; but, so far, Dr. Koll has not met with it in patients suffering from diseases which predispose to congestive or inflammatory attacks in the serous membranes, such as nephritis, diabetes, etc. It is evidently, therefore, a primary pleurisy.

The subjective symptoms of the affection usually recall those of acute or chronic gastric lesions. The most important of these is pain in the epigastric region, diffuse or localized, which sometimes disappears very suddenly. It is especially marked at a spot situated immediately below the ensiform cartilage, and increases under the influence of pressure, deglutition, and forced respiration. Sternal and peri-sternal pain is also present, radiating laterally along the inferior margin of the lungs. The pain is of a peculiar smarting character, and is aggravated by deep breathing, exertion, and bending forward. Lastly, there are frequently eructations, vomiting, and a considerable increase in the frequency of the pulse, reaching 140 pulsations per minute, but without any cardiac lesion.

On auscultation, Dr. Koll, in every case, found a fine friction sound, synchronous with the respiratory movements, and localized in the region of the pleural sinuses. This friction sound was especially marked over the third and fourth ribs, as well as at a spot situated a little below and internally to the apex beat, corresponding to the process of the upper lobe of the left lung, which, at this place forms a kind of bridge between the costo-pericardial and costo-diaphragmatic sinuses of the pleura. A low friction sound was sometimes also heard over the middle of the sternum, whence it was propagated toward both sides, along the lower culs-de-sac of the pleura, sometimes as far as the vertebral column.

All these friction sounds were produced during the maximum of inspiration, and disappeared after a series of forced inspirations, becoming perceptible again after two or three hours had elapsed.

In three cases this sound was heard in the intervals between the respiratory movements, and it then was synchronous with cardiac pulsation; but, inasmuch as this phenomenon manifests itself only in the region of the culs-de-sac of the pleura, never at the spot where the lungs leave the anterior surface of the heart exposed, Dr. Koll concluded that this, obviously, is a pleural, not a "pericardial," friction sound.

This form of dry pleurisy sometimes extends to the peritoneal cover of the spleen and liver. In three patients, for instance, all of whom were women, there supervened suddenly, in the course of the pleural affection, aggravation of the fever, preceded by rigors; then the spleen increased in size, and became tender, and auscultation revealed the existence of intense perisplenic friction sounds, though without enlargement of the liver.

The general evolution of dry pleurisy of the pleural sinuses is characterized by its long duration, and by the frequent exacerbation and remission of the symptom. Among all the cases under Dr. Koll's observation, seven only recovered completely; the others, when discharged from the hospital, still presented pleural friction sounds, and experienced, on deep inspiration, a feeling of oppression and pain in the affected region. In four patients, these morbid symptoms were found to persist six months later.

Dr. Koll recommends, for the treatment of this affection, rest in bed, and the administration of calomel in doses of 15 ctg. three times daily; this being especially useful in cases complicated by perisplenitis, and perihepatitis. Blisters and other derivatives only produce a palliative effect.

Indications for Potassium Iodide in Secondary Syphilis

In secondary syphilis, potassium iodide is, as a rule, employed only as an adjuvant of mercury (in the mixed treatment), or to combat certain symptoms attributed to the effects of the syphilitic toxin; such as neuralgic and nocturnal osteocopic pain, anemia, syphilitic fever, insomnia, vertigo, etc. According to the author, T. Baer (*Med. Week*, 1896, IV), there is another indication for treatment by potassium iodide in cases of secondary syphilis: the presence of hypertrophic lesions, met with chiefly in women. These lesions—which have the forms of granulating papules, frambesia, etc., and are but slowly and imperfectly cured by mercury—rapidly yield to potassium iodide, provided large doses of this drug be administered. In cases of this kind, Dr. B. advises increasing the dose rapidly from 1 to 20 gme. daily. His patients have invariably borne these large quantities well.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Multiple Neuromata, with Report of a Case

After a discussion of the numerous tumors affecting nerve fibers, and separating those growths obviously connected with syphilis, leprosy, carcinoma, sarcoma, or glioma, Dr. Ernest S. Reynolds (*Manchester Med. Chron.*, VI, No. 3) states that true neuromata, and fibrous and myxomatous pseudo-neuromata, are met clinically in five forms:

1. Subcutaneous painful tubercles.
2. Mollusca fibrosa.
3. Amputation neuromata.
4. Plexiform neuromata.
5. Multiple neuromata.

Dr Reynolds then describes the following case, and adds the report of Professor Delépine concerning the postmortem changes:

"J——— H———, male, aged 26 years, was admitted to the Manchester Workhouse Infirmary, March 8, 1883, and died Jan. 16, 1893. He said he had been affected with slight general weakness in early life, and had been gradually getting weaker ever since. He first noticed swellings on his legs and arms many years ago.

"He lies helplessly in bed, the only large movements he was capable of, being slight movements of the head and slight movements of the right arm, enabling him to feed himself with difficulty. (Before he died he was, however, totally unable to move any of his limbs.) He is very much emaciated, all the muscles of the body feeling like shreds of tissue. All over the body can be seen, and more easily felt, many hundreds of very small bodies, like shot, under the skin, these being especially marked on the skin of the forehead, scalp, and neck.

"In the situation of the large nerve trunks, as in the axillæ and in Scarpa's triangles. thick nodular matted cords can be felt. A superficial tumor, of the size of a large walnut is present in the right ulnar nerve, and there is another, as large as a medium-sized apple, in Scarpa's triangle on the left anterior crural nerve. A large mass can be felt in the abdomen in the right iliac region. All superficial nerve trunks, such as the ulnars and sciatics, can be felt to be very much enlarged. The arms are not fixed, but the right hand shows marked '*main en griffe*,' and the left hand is much extended at right angles to the forearm.

"Pressure on the left ulnar nerve, behind the internal condyle of the humerus, causes a sudden momentary contraction of all the muscles supplied by the nerve. The legs are contracted and firmly fixed at the hips and knees. There is no paralysis of any cranial nerve, respiration is carried out normally, and there is no incontinence of the bladder or rectum. Thus, the total loss of power principally affects the muscles of the limbs. Sensation is everywhere normal, and the special senses are unaffected; there is not and never has been, any pain. Mentally, the patient is clear and fairly intelligent. Death was due to gradual exhaustion."

Postmortem Examination.—The brain and spinal cord were normal. The cranial nerves within the skull were normal. The spinal nerve roots, especially the anterior, were thickened and nodular, but not to a marked extent, except in all the nerves forming the cauda equina. Outside the skull and spinal canal, all the nerves of the body, including the sympathetic trunks and branches, were much enlarged, thickened, and generally nodular, even to their terminal filaments.

Most of the muscles of the limbs and trunk were pale, wasted, and fatty, and, indeed, almost unrecognizable as ordinary muscular tissue.

Professor Delépine's report was as follows:

A.—*To the naked eye*, the chief alterations noticeable in all the nerves showing distinct enlargement were that, first, the funiculi were much more unequal than normal. Secondly, they were more or less altered in appearance—the smallest being almost of normal color and opacity; the largest being translucent, like mucous tissue. Thirdly, they were more distinct from each other than in the normal state.

B.—*Microscopically*, the changes could be best studied in nerves which had not reached a considerable size (were not more than three times the normal diameter), The nerve fibers in the smallest funiculi presented a very nearly normal appearance; so did, also, the endoneurium and the perineurium. Here and there, under the perineurium, or in the depth of the funiculus, the nuclei, which are normally present in the endoneurium between the nerve fibers, were more numerous than usual. Many of these nuclei were elongated or triangular in shape. In slightly more altered funiculi, bundles of fibrous tissue were seen between the nerve fibers; these bundles were not tightly packed, but separated by clear spaces. Some of the bundles were continuous with processes from the perineurium. The perineurium was sometimes unequally thickened by the growth of its deepest layers at the expense of the funiculus. In more altered funiculi, the changes described above were associated with great separation of nerve fibers and disappearance of many of them. Bundles of small fibers appeared to be more numerous than in a normal nerve, indicating, probably, a temporary tendency to regeneration, which, however, did not avail, for in the more advanced tumors the nerve fibers had entirely disappeared. In the most altered funiculi, the perineurium was affected in various degrees. Sometimes it was barely thicker than normal; in others it was unequally thickened. The endoneurium and nerve fibers were replaced by fibrous or mucous tissue, indicating here and there, by their arrangement, the previous existence of nerve fibers. In the mucous tissue the cells were of great length, with very long nuclei, resembling those of the cells of the perineurium.

The extensive motor paralysis and muscular degeneration, without any sensory disturbance, is another instance of the peculiarity of sensory nerve fibers to resist disease. Similarly (with the exception of the muscular atrophy), there were no vasomotor or trophic disturbances. The case might almost be described as one of peripheral neuritis affecting only motor fibers, produced by the invasion and pressure of the fibro-myxomatous growth.

Excluding amputation neuromata, it seems doubtful if there exists any such neoplasm as a neuroma, pure and simple.

Psychoses Dependent upon Gastro-Intestinal Auto-Intoxication

Dr. Wagner von Jauregg, in *Wien. klin. Woch.* (No. 19, 1896), cites clinical and chemical reasons for supposing that many acute psychoses are dependent upon auto-intoxication following gastro-intestinal derangements.

Many of the anomalies of metabolism make themselves known by the presence of acetone, diacetone, and butyric acid in the urine. The writer is also of the opinion that other by-products are to be looked for, and corroborates v. Jaksch's observations of acute psychical disturbances, amentia, post-epileptic and post-alcoholic deliriums, following a condition of acetonuria.

The method of treatment advised is the use of calomel and iodoform, to accomplish the emptying and disinfection of the gastro-intestinal tract.

That auto-intoxication from the intestinal tract plays a great part in many of the acute psychoses is shown to be more likely by reason of analogous conditions that develop, due to defective albuminous disintegration with formation of indican, where symptoms of a similar type are known to occur.

Statistical Contribution to the Symptomatology of Locomotor Ataxia

Dr. Simarka, after a study of some fifty-two cases of tabes dorsalis, gives, in *Rev. neurolog.* a percentage résumé of the symptoms. The list is as follows:

	Per Cent. of Cases.
Pain (various sites)	98
Knee jerk phenomenon	98
Romberg's symptom	90
Disturbance of locomotion	88
Anomalies of pupillary reaction	84
Anomalies of width of pupils	76
Muscular weakness	58
Disturbances of sensibility	58
Analgesia of ulnaris and peroneus	58
Cremasteric reflex abolished or weakened	58
Loss or diminution of perception of place	52
Painful perceptions	52
Diminution or loss of sight perceptions	50
Hypotonia of the muscles	46
Disturbances of touch sensations	42
Strabismus and Ptosis	32
Paralysis of muscles of eye	32
Muscular atrophy	22
Arthropathies and fractures	16
Cardiac disturbances	16
Cerebral disturbances	12
Gastric crises	10
Trophic disturbances of the skin	8
Obstinate diarrhea	8
Laryngeal crises	6
Involuntary movements	6

Influence of the Nervous System on the Effects Obtained by Injection of Animal Serum

In order to elicit the part taken by the nervous system in the process of resistance, Drs. Charrin and de Nittis, in the *Med. Week* (V, No. 2), divided the sciatic nerve in one of the paws of a rabbit, consecutive to the introduction of serum from vaccinated animals. This animal was subjected to an intravenous injection of serum from a guinea-pig, the latter animal being vaccinated against the proteus vulgaris, and finally, the authors inoculated into both paws the same quantity of a virulent culture of the proteus. The injection of serum sometimes preceded, in other cases it followed, the division of the nerve. Again, in others it was made simultaneously with the inoculation of virus.

Observing care to make the immunization proportional to the infection, the abscesses, as a rule, were of larger size, or developed exclusively in the region where there was no nervous influence.

Lesions of the nervous system, as a rule, favor infection and lessen the action of the serums.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D.

Necrosis of the Sphenoid

Dr. A. A. Foucher (*Rev. Inter. de Rhin., Otol., et Laryn.*, Oct., 1896) cites the case of a woman who, at the age of 15, was seduced and at the same time contracted syphilis. Dr. F. saw the patient for the first time in March, 1889, four years after the occurrence of the primary lesion. She had not consulted any physician and had never been under treatment.

When first seen by the author, she presented serious manifestations of tertiary syphilis : Sinking-in of the nose ; fetid breath ; caries of turbinates ; ulceration of pharynx, and complete destruction of soft palate. The naso-pharynx, tonsils, and faucial pillars were bathed with pus. With a probe, denuded bone was detected, and a sequestrum.

The patient was submitted to anti-syphilitic treatment, and locally to nose and pharynx ether and iodoform were applied. After the lapse of a few weeks, the fragments of turbinates were detached, as well as the sequestrum in the pharyngeal vault ; it became dislodged and fell back into the throat in the act of mastication. At this time there occurred an abundant hemorrhage which threatened to suffocate the patient. However, she was able to remove the foreign body by means of her fingers.

The sequestrum was very irregular in form, measuring nearly three ctm. in its greatest diameter, and seemed to be the body of the sphenoid.

Under appropriate treatment, and after the elimination of all the sequestra, the patient is improving.

Excision of Breast for Malignant Disease

Herbert Snow, of the London Cancer Hospital, states, in the *Brit. Med. Jour.* (Oct. 17, 1896), that bone-marrow infection is one of the chief obstacles to success in obtaining a radical cure of cancer of the breast. During the past twenty years he has operated upon 300 cases of cancer of the breast, and from this experience he concludes that bone-marrow infection occurs in most cases within six months of the inception of the disease. It is impossible, hence, to regard a case that has had no recurrence in three years as cured, unless we can exclude bone-marrow infection, and this cannot always be done, even with careful examination.

Snow believes that the most important practical point in removal of the breast for carcinoma is to excise a large area of the subcutaneous connective tissue around the diseased organ, from the sternum to axilla, and from the clavicle to the seventh rib. He believes this tissue the most dangerous, as furnishing a nidus for recurrence. He rather advises against removal of extensive areas of skin, and believes the best results can be secured with enough skin left for primary wound-healing. In advanced cases he does not believe in the useless risk of life attending a severe operation, unless there is a probability of being able to remove the entire disease. Removal of the larger masses, with prompt wound-healing and no risk, he considers the better treatment. After-treatment, with cocaine and opium, is advised, and, the author believes, thus retards the development of the growth.

Fracture of the Lower End of the Radius

Dr. John B. Roberts, of Philadelphia, has recently published, in the *Amer. Jour. of Med. Sci.* (Jan., 1897), the results of a very extensive experience in the treatment of this form of fracture. His paper is copiously illustrated with original cuts. In a paper read before the American Surgical Society in 1892, Dr. Roberts advocated a simple dressing of adhesive rubber plaster, without coaptation splints, in most cases of Colles' fracture.

In the present paper he states that "the treatment consists in immediate and complete reduction of the fracture, followed by a retentive dressing that will not interfere with the free use of the fingers." This can be done without anesthesia.

In simple cases, with no comminution, only a "cuff or wristlet of superimposed layers of adhesive plaster, three inches wide, extending 1½ inches above and 1½ inches below the fracture," is needed. In some cases, however, he advises the dorsal and palmar splints—one or both.

Massage and hot fomentations he believes do much good in neglected cases. One case was greatly improved, though the treatment was not given until two years after injury.

Thyroidectomy

At a meeting of the Academy of Medicine of Paris, France, M. Delove, according to the *Med. Press*, reported a case of death following an operation of thyroidectomy practiced by him in a patient suffering from Basedow's disease. The right lobe of the gland only was removed, and for some hours the patient seemed to be doing well. Toward evening, however, she became agitated and oppressed, and succumbed during the night. Autopsy failed to reveal the cause of death.

M. Marie, in the discussion, said that he thought it necessary, as regards the treatment, to make a distinction between the classical exophthalmos, which commences with tachycardia and is followed by goiter, from the goiter which precedes, sometimes by fifteen or twenty years, the palpitations, for in this latter affection the dyspnea is always more considerable. The latest statistics on the subject are by M. Allan Starr, comprising 190 cases, thirty-three of which ended fatally. According to the speaker's inquiries, the fatal case belonged to the true Basedow's disease, whereas the favorable cases belonged to the second type. It was for the same reason that the thyroid treatment did more harm than good in the former affections, which should be reserved for operative interference when the patient is threatened with death.

Pathogenesis of Appendicitis

Tuffier, according to *Prog. méd.*, regards gangrene as characteristic of appendicitis due to presence of foreign bodies.

Quénu thinks a kink in the omentum or pain in the ganglia about the appendix has been confounded with true appendicitis.

Reclus objects to Diculafoy's "closed vase theory." His theory is that of *stagnation*. Normally the cecum is a sort of diverticulum, much like a fistula open internally. Appendicitis is the border line of three kinds of lesions; first, local affections, e. g., foreign bodies; second, neighboring inflammations, e. g., pseudo-membranous entero-colitis; third, general affections, directed to lymph glands, e. g., typhoid fever.

Brun removed the appendix transformed into a "closed cavity," which, in no case, was infectious, refuting Diculafoy's theory.

Walther found but one obliteration in seventeen operations.

Jalaguier says obliteration is the consequence, not the cause of appendicitis. We remove appendices obliterated that have not undergone acute attacks. In some cases, at least, appendicitis is the local manifestation of a general affection. The virulence of the microbes found here seems to be exaggerated by the infectious diseases, which are difficult to eliminate from the appendix.

Pozzi claims that non-cure after removal of appendix, cecal lesions and suppuration without lesion of the appendix, are so many arguments that typhlitis can give rise to symptoms like those of appendicitis, can co-exist with and survive appendicitis, and can exist alone. Entero-colitis and typhlo-appendicitis can occur together. The appendix is a *locus minoris resistentiae*, and, when once affected, is a favorite seat for recurrence, especially after a general affection like varicella, or grippe. It may even be a point of local retention of the general infection in grippe, or varicella, when the appendix has not before been affected.

Regnier does not admit the "closed vase theory." Appendicitis is "grippe" of the appendix.

Poirier regards the appendix as a retrograde organ. A twist or fold in the peritoneum, from unequal development of the ileum and mesentery, would suffice to produce a small "closed vase." "The mechanical theory, to me, gives the whole history of the pathogenesis of appendicitis."

An Easy Method for Locating the Fissure of Rolando

In a report of two operations for Jacksonian epilepsy, in the *Brit. Med. Jour.*, Dr. Alfred E. Morison incidentally gives a simple and easy method of locating the fissure of Rolando.

The measurements may be made with a piece of sterilized silk, marked off by knots to form the triangle, or by defining the sides of the triangle by means of the surgeon's finger, whose length is already known. A point is taken half-way between the glabella and the external occipital protuberance, and the breadth of the little finger behind it (about half an inch) indicates the apex of the triangle. An isosceles triangle is then mapped out on the scalp; its sides are 3¾ inches long. One lies in the middle line forward from the point mentioned above. The base measures 4⅛ inches and is anterior. The posterior side of the triangle is over the fissure of Rolando. Trigonometrically, the apical angle of this triangle is 67° 27′ 52″, and this is practically identical with the angle formed by the fissure and the middle line of the skull, worked out by other methods, and from an examination of a large number of skulls of various sizes, is constant and correct.

Burns

For burns of the second degree, the *Rev. Internat. Ther.* recommends the following formula:

Cocaine Mur.	1.5
Salol	3.0
Petrolati	25.0

Ointment—External use.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N. Hoople, M.D,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Intratracheal Medication

In an article in the *Med. Rec.*, Dr. J. L. Barton states having treated twenty-five cases by intratracheal injection, including cases of severe laryngo-tracheitis, bronchitis, and tuberculosis, and one case of asthma. This form of medication has the following advantages:

1. The remedy is applied directly to the irritated mucous surface.
2. It immediately alleviates the most distressing symptoms, adding at once to the comfort of the patient.
3. In a certain number of cases the antiseptic effect of the medicine is very pronounced, as shown by the longer interval between the febrile attacks, and by their lessened intensity when they do occur.
4. The tracheal and bronchial mucous membrane rapidly absorbs the medication, so that we may expect a general as well as a local effect.
5. We avoid disturbing the patient's stomach with nauseating doses, and the shattering of his nervous system with opiates.
6. This method of alleviating the most distressing and annoying symptoms does not interfere in the slightest degree with any other line of general treatment which may be deemed advisable.
7. In cases characterized by an atrophic condition of the tracheal mucous membrane, or of pulmonary disease with cavitation leading to retention and decomposition of the secretions, intrabronchial injection will remove the disgusting fetor of the breath consequent upon this condition.

The medicaments chosen should be soothing, and the vehicle non-irritating; the petroleum oils being preferred as vehicles.

At each insertion of the tube, from ½ to 1 dr. may be injected, and this may be repeated at one sitting until from 2 to 4 dr. have been employed.

Nasal Obstruction and Cardiac Disease

The *N. Y. Med. Jour.* for Jan. 16, 1897, contains an article by Dr. Geo. R. Lockwood, in which, after considering this interesting subject with nicety and reporting various cases, the author's summary is as follows:

I.—It is highly probable that patients with cardiac disease are more subject than others are to nasal obstruction.

II.—Nasal obstruction occurring in a patient with cardiac disease, may upset the balance of respiratory compensation and produce decided symptoms.

III.—Unless care be taken, these symptoms may be mistaken for those of failing compensation, and may lead to a gloomy prognosis and a faulty treatment.

IV.—Unless the nasal obstruction be properly relieved, and the patient allowed a sufficient quantity of good air, the arterial spasm may possibly occur, throwing an increased amount of work on the heart, already handicapped, and may become a factor in inducing dilatation. The effect of the poor quality of the blood thus supplied to the endocardium must also be taken into consideration.

V.—Nasal examination made during the day may not reveal the actual obstruction, which is most apt to appear at night, when the patient is recumbent and the circulation is in its most sluggish state. To the congestion of the inferior turbinated bodies thus induced, the characteristic nocturnal attacks are to be ascribed, through the medium of asphyxia and arterial contraction. Nasal examination, however, usually reveals extreme vaso-motor irritability of the turbinated bodies.

VI.—In cases of cardiac disease, including angina and pseudo-angina pectoris, no estimate of the patient's condition can be made, and no rational treatment can be inaugurated, without a thorough examination of the patency of the upper respiratory passages.

Eyesight of Children

Mr. Brudenell Carter subjected 8125 children to simple tests of vision in twenty-five elementary schools in London. Of these less than 40 per cent. were possessed of normal vision in both eyes. As regards myopia, he has found no evidence of any extended prevalence of this condition. The proportion of cases was small, and it bore no relation whatever to the lighting of the school, the two schools in which the greatest proportion of cases occurred being, respectively, the best and worst lighted of the whole number. An important fact was the complete absence of any evidence as to progressive myopia. Some of the more pronounced cases were observed in children who had recently joined school, and there was no evidence that it increased with the length of time the children had been at school.

Hyperopia was responsible for the vast majority of defective refraction. The increase of this condition has no connection with school life, and can be counteracted only by improvements in the general condition of the poorer class.

School life did not seem to be detrimental as to astigmatism.

The defective vision in a great number of cases was due, not to structural changes in the refractive media, but to imperfect practice in seeing. He compared the vision of children at a country school with his town cases, and it was found that country vision was far superior. The country child has an expanse of landscape before him, presenting numerous objects under visual angles rendered small by distance. Country boys had better vision than country girls, the latter, as a rule, leading a less active life.

Mr. Carter urges strongly that the vision, especially of town children, should be tested and trained systematically. He urges that it should be included among the physical faculties which are tested by competition, and for proficiency in which prizes are given. Such competition would tend forcibly to diffuse a knowledge of what a normal vision should be.

Laryngeal Varicella

M. Marfan and T. Halle report two cases of this rare disease (*Rev. mens. des Mal. de l'Enf.*); one in a male child, 3 years of age, at first thought to be diphtheria, and in which recovery took place; the other in a child of 9 months, the case ending fatally. Laryngeal stenosis in varicella may at times be confounded with diphtheria. The distinction between the two affections is to be made by a bacteriological examination.

Relations Between the Motor Oculi and the Ciliary Ganglion

While it has been assumed that the ciliary ganglion belonged to the motor oculi nerve, as also its sympathetic nature, physiological investigation has never established this beyond a doubt, which, according to the *Centralbl. f. Phys.*, as cited by the *Jour. Amer. Med. Assoc.*, Apolant has now succeeded in accomplishing by the application of Marchi's method. He experimented on young cats, as this ganglion is comparatively large in them, and the ciliary nerves contain myelin. He announces that the fibers entering the ganglion from the motor oculi nerve end there, with their terminals blending with the fibrils of the ganglion cells. The motor oculi nerve was cut before its entrance into the sinus cavernosus, and only young animals survived the operation. They were killed from eight to fourteen days afterward, and the ganglion, with the entire contents of the orbit, prepared and treated by the Marchi method. The ganglion of the sound side was also treated in the same manner. He never succeeded in tracing any of the degenerated fibers of the motor oculi past the ganglion to the periphery; consequently the cells of the ganglion are to be considered as the beginning of a new neuron. The experiments also furnished the proof that the ganglion cannot be spinal, as in that case the sectioned fiber of the motor oculi would have degenerated toward the nucleus, and not toward the ganglion.

Quinine Amblyopia

Dr. S. C. Ayers, of Cincinnati, in the *Amer. Jour. of. Ophth.* (Jan., 1897), reports a case of this condition occurring in a girl 7 years of age. The child had generally enjoyed good health. She had had elevation of temperature for two weeks, or more, and it was feared she was about to be attacked with typhoid fever. The patient then presented an eruption of chicken-pox, and during this time the temperature was far above normal. She was given large doses of quinine for three days, as follows: First day, 24 grn.; second day, 56 grn.; and third day, 26 grn. The child became unconscious, after taking the last dose, and so remained for two or three days.

After regaining consciousness, she was totally blind. This lasted one day, the vision returning slowly. Later on, her color sense was impaired.

Dr. Ayers examined the case two months after the attack, and he found both papillæ pale, and vision 0.6 in each eye. The color sense semed to have returned, and the child appeared quite healthy.

In the space of three days she had taken 104 grains of quinine, and, as the writer very truly states, "quite a large amount for one of her age." The brain was profoundly impressed by the drug, evidenced by the unconsciousness for a period of two or three days. The influence on the hearing, unfortunately, was not noted.

He goes on to quote De Schweinitz, who experimented on the influence of quinine on dogs. This last-named author says, in résumé, "that we have thickening and changes in the walls of the vessels (endovasculitis); organization of the vessels, as the result of the constriction of the surrounding nerve fibers, presenting appearances not unlike a glaucomatous excavation; and finally, practically complete atrophy of the visual path, including the optic nerves, optic chiasm, and optic tracts, as far as could be traced.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D, HOMER E. FRASER, M.D.

Purpura Following Iodine Injections

Dr. Chavoix reports a case (*Méd. mod.*) of purpura which supervened upon the puncture of a hydrocele and an iodine injection. Eight days after the operation (which was preceded by an injection of cocaine) the patient was taken with violent chills, and the body became covered with petechiæ. After that came on epistaxis, hematuria, and hiccough. The temperature was all the time rather subnormal.

Dermatitis from Röntgen Rays

Several cases of dermatitis resulting from prolonged or often repeated exposure to the *x*-rays have been reported in this country and in Europe.

Dr. H. Radcliffe Crocker (*Brit. Med. Jour.*, No. 1879) reports an unusually severe case affecting the skin of the abdomen. A Crookes' tube was placed about five inches from the epigastrium, a flannelet shirt being interposed, and an exposure of one hour made. Nothing was noticed at the time, but the next day the skin felt stiff and had assumed a deep red color. This is the only reported case of evil results following a single exposure.

Herpetic Fever or Pseudo-Varicella Herpetiformis

Herpes, in dermatology is considered as an affection which involves both the skin and mucous membrane, and is characterized by small vesicles, generally grouped together and surrounded by a more or less marked erythematous aureola. The essential element is the vesicle, in whose evolution there are three stages: The pre-vesicular, revealed by phenomena of local erythism, which at times is general; the vesicular, which lasts a few hours or one day; and the post-vesicular, the longest, characterized by desquamation. According to the location, we have herpes of the skin and herpes of the mucosæ—varieties that can appear isolated or coincident. In some cases the herpes is symptomatic and does not constitute an independent disease: in others it is the essential element, as occurs in genital herpes or the buccal variety with herpes zoster and in herpetic fever—a fever not yet well understood, to which this abstract pertains especially.

In this fever we have, as in scarlatina, measles, etc., an eruption which may be more or less general, and is accompanied with hyperthermic phenomena of diverse intensity. There have been doubts as to its existence; but it is undoubtedly true that there is an eruptive fever which has not as yet been described, which bears great analogy to, and seems to be a form of, varicella.

According to Gaston, in the *Jour. de Clin. et de Ther. Infant.*, the following are the facts: A child, of from a few months to 6 years of age, is stricken with moderate elevation of temperature, slight nasal catarrh, some cough, loss of appetite, and slight gastric disturbance. About the second day there appear upon the tongue eruptive manifestations not unlike aphthous spots, and similar small vesicles attack the hard palate, the faucial pillars and tonsils; the posterior wall of the pharynx is not affected; about the same time the skin is invaded, with disseminated vesicles, not grouped, each being circumscribed by a pinkish aureola, and at times accompanied by slight pruritus. The fever lasts two or three days, and generally does not go higher than 39° C.; there is loss of appetite, the tongue is coated in the center, and its borders are red with prominent papillæ; there are at times fetor of the breath, as well as of the stools, which are not large, and slight bronchitis. The eruption begins to disappear on or about the fourth day, the regressive phenomena beginning by the mouth and pharynx; the vesicles become flattened, and terminate without leaving false membranes. At the same time the tongue clears up, beginning at its border; the pharyngeal pain ceases, if it has existed; the cutaneous eruption terminates with depression and reabsorption, not giving place to scab-formation; the vesicle fluid does not lose color and is reabsorbed in two or three days, and the wall of the vesicle descends totally without leaving the slightest trace; all the digestive and respiratory phenomena terminate at most on or about the tenth day.

The children that are attacked with most frequency are those that have an arthritic heredity, or those that have had herpes. The disease flourishes in the fall and spring months.

Gaston has not been able to ascertain the cause nor the period of incubation. Is it contagious? It seems to be, for it has been noted to occur in various members of the same family. What is its nature? Is it a general infection? Is it a gastro-intestinal infection? Is it a special eruptive fever? All these remain as yet unanswered, for it is unknown what the etiology of this disease is. But it is almost certain that we have to deal with an independent morbid process; it is not a symptomatic herpes, because it does not behave like this last-named condition; it cannot be pemphigus contagiosum neonatorum, for it does not present blister formations and it attacks the vesicles; it is not a strumous affair, nor any of its forms, because these affections, like prurigo, are more papular than vesicular—they appear during the first few months of infantile life, or at dentition, and, moreover, they develop slowly.

The disease which it resembles most is varicella, but this is distinguished by its incubation; moreover, it frequently is localized upon the face, owing to the fact that at the third day the eruption becomes vesico-pustular, and, besides, it terminates by crust-formation. Nevertheless, both diseases are similar to each other in the way they present themselves, both having skin eruptions, as well as affecting the mucous membrane, and, moreover, both eruptions present a vesicular aspect. The greatest difference is that in varicella the vesicles are larger.

By virtue of these common characteristics, the author, who does not pretend to judge the nature of the malady, and who only has considered the question from a clinical view-point, has denominated it pseudo-varicella herpetiformis.

Psoriasis

The following combination is recommended by Shoemaker (*Med. Bull.*) in psoriasis, as acting favorably upon the blood, nervous system, and glands, and limiting the formation of uric acid:

Arsenii Sulphidi	⅛ grn.
Podophyllotoxin	⅛ grn.
Tinct. Belladon	2 min.
Quinin. Sulph	2 grn.
Salicini	4 grn.

Make into capsules. One such capsule three or four times a day.

And, as a local application, he recommends the following ointment:

Ol. Cadini	2 dr.
Ung. Hydrar. Nitr	1 oz.
Ac. Salicylici	2 dr.
Ung. Zinci Ox	2 oz.

Excision and Skin-Grafting for Tuberculosis of the Skin

Dr. M. B. Hutchins advocates, in the *Jour. of Amer. Med. Assoc.*, excision followed by skin-grafting, in tubercular disease of the skin, as being more certain and speedy and less painful than the methods usually employed. It is necessary that the incision be complete, and that perfect asepsis be assured, else the skin-grafts will not grow. Dr. H. used Thiersch's method of grafting in the two cases reported, but the use of one graft large enough to cover the whole defect left by the removal of the disease, if it could be obtained, would probably yield better results.

Seborrhea of the Scalp

The *Independance méd.* recommends this formula:

Resorcin	1 gme.
Alcohol	50 gme.
Vaselin	150 gme.

To be rubbed into the scalp at night. After improvement has set in it is sufficient to use it once in two or three months.

Pruritus

Dr. de Wannemaker reports (*Ther. Monats.*) good results from salophen in doses of 4 to 5 gme. a day, used as an antipruritic. It has proved especially efficacious in itching of a nervous nature, and in the itching accompanying diabetes, gout, and urticaria. It also had a favorable influence in some cases of eczema and psoriasis.

Restriction of Meat in Psoriasis

Dr. Bulkley (*Med. Rec.*, Jan. 9, 1897) reiterates his opinion that psoriasis is not a local but a constitutional disease, depending upon a blood-state closely allied to that belonging to gout and rheumatism. Though we do not yet know exactly what that blood-state is, we designate it at present by the name uricacidemia. The excess of uric acid in the blood is due to two causes: (1) The excessive consumption of food which contains it or other members of the xanthin group, such as meat, fish, tea, coffee, cocoa; or (2) because so much nitrogen is taken that the uric acid formed out of it is not all excreted, and a store of uric acid is thus gradually formed in the body, to the extent possibly of fifty to 400 grn. per year.

It is therefore apparent that, if we want to benefit our psoriatic patients permanently, we must treat the underlying condition—the uricacidemia—and either forbid a meat diet (including extracts, strong soups) altogether or reduce it to a minimum. This is certainly to be done in connection with other treatment.

Treatment of Syphilis

At a meeting of the Société de Therapeutique (Paris) Dr. Gallois strongly recommended the following formula for hypodermic injection in the treatment of syphilis:

Mercuric Benzoate	16 grn.
Sodium Chloride	5 grn.
Cocaine Hydrochlorate	5 grn.
Distilled Water	4 oz.

A Pravaz syringeful to be injected daily into the gluteus muscle.

OBSTETRICS AND GYNECOLOGY

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. DeForest, M.D., H. T. Hotchkiss, M.D.

Anterior Fixation of the Uterus

Dr. W. A. N. Dorland contributes an extensive article upon this subject to the *University Med. Mag.* (No. 3), in which he describes the methods of anterior fixation, and reports cases of gestational disturbance and dystocia following anterior uterine fixation, which have been recorded, from time to time, in the current medical literature.

"In investigating the features of the dystocia noted, the following facts are worthy of mention: In nine cases, or 5.02 per cent., there were abnormal presentations of the fetus. These were distributed as follows: Once, or in 0.55 per cent., the ear presented; twice, or in 1.11 per cent., the breech presented; and six times, or in 3.35 per cent., the child lay transversely; when compared to the usual frequency of trunk presentations, about ½ per cent., the present percentage is especially striking. Version was required in nine instances, or 5.02 per cent. of the pregnancies, and 40.9 per cent. of the difficult labors. Forceps were employed eleven times, or in 6.14 per cent. of the pregnancies, and in 50 per cent. of the cases of dystocia. In three instances, or 1.67 per cent. of the pregnancies, Cesarean section was performed; and in the same percentage of cases, postpartum and puerperal hemorrhages were noted. The placenta was retained, also, three times (1.67 per cent.). The fetal mortality was 17.87 per cent., and the maternal 1.67 per cent. The latter is not altogether attributable to the operation, for one death was the result of chronic valvular disease of the heart. The true maternal mortality is, therefore, but 1.11 per cent. (two deaths)."

An inquiry into the actual causes of the foregoing difficulties, elicits the following results: the great frequency of the transverse presentations is undoubtedly due to an inability on the part of the uterus to properly expand in its long diameter. The abnormally high situation of the cervix uteri, at times altogether above the pelvic brim, is another element in the dystocia—the direct outcome of an improper technique in the performance of the hysteropexy. The object of the latter operation is not to convert a pathologic retrodisplacement into an equally pathologic anteflexion, but merely to restore and retain the fundus uteri in its normal position of moderate anteflexion. This can only be accomplished by fixing the uterus at a point sufficiently low to prevent undue upward traction upon the cervico-vaginal attachments, but not so low as to cause a decided bending at the internal os, or a marked anteversion of the organ. "Leopold advises fixation at a point not more than half an inch above the upper border of the symphysis, as most conducive to this end. Undoubtedly, it is true that the lower the fixation, the greater the percentage of difficulties in subsequent gestations—a statement the truth of which is substantiated by an inquiry into the relative percentages of dystocia following the two operations of ventral and vaginal fixation. Noble states that over 25 per cent. of pregnancies subsequent to the operations of Dührssen and Mackenrodt abort, and Dührssen himself says that of patients treated for retrodisplacement by means of pessaries 16.6 per cent. abort, while of those treated by fixation of the uterus to the vagina 27.2 per cent. abort. The very large number of difficult labors reported after the operation of vaginofixation is also a strong proof of the accuracy of this assertion. The abortion in these cases is the result of a duplex cause—the reflex irritation produced by the fixation-sutures and adhesions upon the developing organ, and the actual mechanical interference with its growth. In those cases that advance to term, the abnormal direction of the uterine axis—back towards the sacral promontory—not only renders the uterine pains ineffective, but also prevents the proper retraction of the longitudinal muscular fibers of the cervix, so that the dilatation does not proceed normally, the labor thereby being mechanically obstructed by this condition, as well as by the immensely hypertrophied anterior uterine wall. In the vaginally fixated cases, to the foregoing abnormalities must be added a condition of marked cervical rigidity, the result of the mass of cicatricial tissue that is formed about the upper portion of the cervix, whereby its dilatation is absolutely prevented.

"One other danger following the imperfect performance of anterior uterine fixation, is an actual mechanical interference—through the agency of the adhesions—with uterine contraction, resulting during labor in a degree of uterine inertia, and after labor favoring the onset of postpartum and puerperal hemorrhages. This condition was noted in a number of reported cases."

Dr. Dorland thus concludes.

"1. From an obstetric, as well as gynecologic, point of view, the operation of ventrofixation for the cure of uterine displacement is the most desirable in its results.

"2. If improperly performed, any of the operations of anterior fixation of the uterus may exert a deleterious effect upon subsequent pregnancies.

"3. This evil influence increases in direct proportion to the low implantation of the fixation-sutures; hence, the vaginal operations are especially dangerous.

"4. The abnormal conditions noted include pain and traction at the site of the incision, premature termination of the gestation, difficulties in micturition, excessive nausea and vomiting, abnormal presentations of the fetus, mechanical obstruction to labor, uterine inertia, cervical rigidity, uterine rupture, placental anomalies, and postpartum and puerperal hemorrhages.

"5. Over half of the subsequent gestations and labors offer some abnormal condition.

"6. About 14 per cent. of the women suffer from abortions or miscarriages, and over 12 per cent. show dystocia in varying degrees, after hysteropexy, while over 27 per cent. abort after vaginofixation."

A New Method of Performing Vaginal Fixation

H. N. Vineberg, in the *Amer. Gyn. and Obstet. Jour.* (VIII, No. 6), has a paper with the above title.

The operation referred to is fixation of the uterus to the vagina by suturing to it the round ligaments instead of the fundus.

The technique is as follows:

1. Longitudinal incision in the anterior vaginal wall, and free dissection of the flaps on each side.

2. Transverse incision of the peritoneal fold.

3. Delivery of the fundus if there exists any suspicion of disease of the adnexa; otherwise bringing it well into the incision.

In this step, traction sutures and volsella should, if possible, be avoided. If there be no firm or extensive adhesion, the uterus may be anteverted by passing two fingers through the peritoneal incision over the fundus and bringing it forward. Pressure over the pubes with the hand may materially assist in this procedure.

4. Passing a suture, either of silk or silkworm gut (catgut would be absorbed too quickly), on either side around the round ligament and a portion of the adjacent broad ligament, at a point one or two ctm. from the horn of the uterus.

5. Passing a transverse suture across the anterior surface of the uterus, midway between the os internum and fundus.

6. Carrying the round ligament fixation sutures through the vaginal flaps on each side at a point corresponding to the lateral sulcus of the vagina, immediately behind the pubic arch, and carrying the uterine fixation suture through the vaginal flaps 1 ctm. from their margin.

7. Closing the peritoneal slit and the vaginal wound, each by a separate continuous catgut suture.

The fixation sutures should be removed at the end of three or four weeks.

A report of three cases is given.

A Report of 310 Cases of Primary Sterility

By primary sterility is understood the condition existing in a woman who does not become pregnant after at least a year of married life. Three hundred and ten such cases were observed by Vedeler, and reported in the *Norsk Mag. f. Laegev.* All the women had been married more than one year; 72 were married ten or more years; and of the others, the average duration of marriage was three years. In only 50 cases was the husband examined, either directly or indirectly; of this number of men, 38 had certainly had gonorrhea, and probably more. In 34 cases of the wives of these men, 11 suffered from perimetritis, 10 from ovario-salpingitis, 3 from metritis, 2 from cystitis and vulvitis, and 8 from vulvo-vaginitis. If this proportion existed in the entire number of husbands of the remaining 260 women, 235 would have had gonorrhea, and 210 would have infected their wives. As a matter of fact, in 198 sterile women the same inflammatory processes were found as in those whose husbands had undoubtedly had gonorrhea; 64 per cent., therefore, suffered from this disease.

The abnormal conditions which were found to exist in the 310 women were as follows:

1. Inflammatory processes: 66 suffered from perimetritis, 45 from salpingitis, 42 from metritis, 18 from vulvo-vaginitis, 15 from uretero-cystitis, 12 from endometritis; in all, 198 cases.

2. Non-inflammatory conditions: (*a*) Anatomical abnormalities: Atrophy of the uterus, 22 cases; persistent hymen, 7 cases; stenosis of the external os, 6 cases; conical cervix, 3 cases; defective uterus or vagina, 2 cases; unclassified, 27 cases; in all, 67 cases. (*b*) Pathologic-anatomical abnormalities: Uterine fibroid, 23 cases; ovarian cyst, 5 cases; uterine polypus, 2 cases; vaginismus, 7 cases; hematocele, 4 cases; syphilis, 3 cases; chancre, 1 case; in all, 45 cases.

The author believes that the cause of the sterility lay in the man in 70 per cent. of cases, and in the woman in 30 per cent.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.,
HERMAN B. SHEFFIELD, M. D.

Preservation of the Natural Color of Macroscopic Specimens

Kaiserling, in *Berl. klin. Woch.* (1896, No. 35), describes his method as follows:

The specimens are placed in a rather large quantity of the following solution:

Formaldehyd	750 c.c.
Aq. Dist	1000 c.c.
Kal. Nitr	10 gme.
Kali. Acet	30 gme.

This solution does not extract the coloring matter, but remains clear after repeated use.

For specimens about the size of the heart or kidney, twenty-four hours is long enough; however, they may remain in the solution thirty-six to forty-eight hours. They are then removed, and allowed to drain thoroughly before being placed in 80-per-cent alcohol where the color is restored. They must not remain in this alcohol longer than twelve hours. They are then transferred to 95-per-cent. alcohol for two hours. After removal from the 95-per-cent. alcohol, they are preserved in a solution consisting of equal parts of water and glycerin, to which 80 parts of acetate of potash have been added. Very delicate specimens—*e. g.*, intestines—are allowed to remain in this solution one or two days, when they are transferred to a mixture of water and glycerin, to which absolute alcohol is added (1:10).

The specimens retain their natural color and transparency; but the author advises that they be kept in the dark, at least not exposed to the sun. As for the durability, the author cannot vouch, as his oldest specimens are but four months old.

The Formation of Diphtheria Toxin

The *Brit. Med. Jour.* (No. 1877) states that Kossel (*Centralbl. f. Bakt.*, XIX) investigated the formation of diphtheria toxin, with a view of obtaining a potent toxin to be used in preparation of the specific serum, and also with the object of determining whether it is, as Roux and Yersin hold, a secretion product of the bacilli, or, as Gamaleia supposes, an intracellular poison, which only appears in the fluid in which the bacilli are grown after some days, and as the result of solution of dead bacilli. He investigated the toxin formation during the early days of growth, namely, the second, fifth, and tenth. His results show that the sterile filtrate of a two-day culture killed, in a dose of 0.05 c.c. per kilo. of guinea-pig, in three days. Smaller quantities led to necrosis, but the animal lived. The filtrate of a five-day culture killed, in a dose of 0.02 c.c per kilo. of guinea-pig; but the same dose of a ten-day culture was not fatal.

The author concludes that the maximum toxicity of a culture is reached in five days. Of a one-day culture, 1 c.c. per kilo. killed in two days, 0.2 c.c. led to extensive necrosis, but the animal recovered. Kossel then investigated the question from the other side; he collected large quantities of the pellicle which forms on the surface of cultures in broth, and by a system of washing with a 0.5 per cent. salt solution, and centrifugalizing, freed them of traces of bouillon, until no biuret re-action was given by the washings. The bacilli were then killed by chloroform vapor, and extracted after several days with a few cubic centimeters of a weak alkaline solution. This fluid certainly killed guinea-pigs; but since, for example, the bacilli of four culture flasks collected, and after preliminary treatment as above, extracted with 14 c.c. of a 1-per-cent. solution of soda, gave a fluid of which 1 c.c. led to edema alone, and 5 c.c. of which were required to kill the animal in two days, the author concludes that, though there is a certain amount of intracellular poison, the greater portion of the toxin is elaborated from the materials of the culture medium by the bacilli within the bodies of the bacilli, but is immediately afterwards secreted.

Biology of the Gonococcus Neisser, with Contributions to the Technique

H. Herman, in the *Med. Rec.* (Dec. 19, 1896), gives a number of practical additions to the technique of the cultivation of this heretofore refractory organism. He uses the centrifuge for collecting the urinary sediment, the patient urinating into a sterilized centrifuge tube—the first and last urines being collected. The main feature in the author's work consists in his having given a satisfactory and not unattainable culture medium of chest serum agar. It is composed of pleuritic effusion plus 2 per cent. agar, one part, and a 1-per-cent. solution of peptone plus .5 per cent. of salt, two parts. The sterilization of the medium is carried on at 65° C. for at least eleven consecutive hours.

Upon this medium the gonococcus grows readily.

In his experiments upon the longevity of the gonococci in gonorrheal pus kept at room temperature, he shows that cultures cannot be obtained after about twenty-four hours, though the bacteria can be demonstrated morphologically. The author insists upon the use of Gram's stain, for he states that thus far he has found no other diplococci in the urethral or vaginal tract that decolorize by means of Gram.

Some of the author's conclusions are:

"I recommend fermentation broth plus liquid chest serum, Dunham's peptone solution plus chest serum, nutrient broth plus chest serum as liquid media for the gonococcus.

"Gonorrheal pus submitted to the centrifuge and kept moist at room temperature contained living gonococci after forty-eight hours.

"In chronic urethritis culture media alone are to be recommended for the detection of the gonococcus.

"I believe that a urethra may contain gonococci which lie dormant and may be innocuous in that person for years, but which may at any time excite an acute gonorrhea in another person."

The Pathology of Itching and its Treatment by Large Doses of Calcium Chloride

Thomas D. Savill, in the *Lancet* (No. 3805), emphasizes the importance of lessening the frequency of, and suffering caused by, itching or pruritus. The disease, if it may be so considered, is classed according to its locality. First. The primary form, which is diffuse in character, usually is subsequent to jaundice, diabetes, gout, old age, a badly regulated diet, injection hypodermically of large doses of morphine, etc. The cause of this itching is due, in his opinion, to the presence and unnatural action of some foreign or pathological element in the blood and lymph channels. Second. The secondary form, local in its results, is a symptom of the ordinary skin diseases, as eczema; or follows a mechanical or thermic cause, as irritation set up by parasites, clothing, sudden heat or cold, etc.; and is dependent in its severity on the extent of the irritation and the idiosyncrasy or sensitiveness of the subject. In this form the treatment is simply to ascertain the cause, which is generally self-evident, and to check it immediately. This is usually sufficient.

To bring about a complete cessation of the pruritus after the cause has been as far as possible relieved, the author prescribes calcium chloride in doses of 20 grn. three times daily, and with gradually decreasing doses for from one to three weeks after the symptoms have subsided. In addition, the diet is to be carefully regulated and the bowels kept open. The drug should be given after meals in plenty of water, and if the salty taste annoys the patient, 1 dr. of tincture of orange peel and 1 oz. of chloroform-water may be added. The author's reasons for employing this drug are that it is said to increase the coagulability of the blood, lessen its acidity, and decrease the sensitiveness of the terminal filaments of the nerve endings, thus combating by its manifold action most of the theories for the etiology of itching. In support of this view he quotes many cases which, when treated by all the usual remedies and with a negative result, improved and even recovered with no subsequent relapses under the use of calcium chloride.

On Septicemia Due to the Micrococcus Tetragenus

The authors, Cauffard and Ramond (*Boll. med. Trentino*, 1896) report two fatal cases of septicemia from which the micrococcus tetragenus was isolated, associated with staphylococcus. These cases emphasize the facts more recently coming to light, that tetragenus infection is by no means uncommon, and can be serious.

The Cultivation of the Vaccine Exciter in the Corneal Epithelium

E. Pfeiffer, in the *Centbl. f. Bakt. u. Parasitk.* (XVIII, No. 25), tells us that he inoculated animals by means of superficial incision of the corneal epithelium. For staining the hardened material, Heidenhain's hematoxylin method with secondary stain, according to Van Gieson, rendered excellent service. Soon after inoculation the peculiar bodies already described by other authors (Guarnieri, L. Pfeiffer, J. Clarke, v. Sicherer) were seen in the corneal epithelium, and later also in the connective tissue. They are neither white nor red blood corpuscles, neither degenerated nor degenerating nuclei, nor centrosomes, nor centrosome-like formations, but a specific *contagium animatum*, which even after a few hours undergo direct division in great numbers. The question whether the parasite belongs to the protozoa or blastomycetes, the author leaves undecided; at any rate it is no bacterium. The large cells described by others, and the spore formation which, it has been stated, takes place in their interior—similar to the division processes in sporozoa cysts—are cell and cell nuclei degenerations called forth by direct irritation on the part of the inoculated parasites. Simple, e. g., chemical, irritation of the cornea does not produce anything resembling parasites. It is interesting to note that in a case of inoculation of a syphilitic ulcer into the cornea, the author obtained wholly similar pictures.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.

Sodium Sulphate as a Hemostatic

M. J. Reverdin, in *Sem. méd.* (1896, No. 52), states that he has several times successfully used sodium sulphate in small doses (*e. g.*, 0.1 gme.), every hour, in cases of serious capillary hemorrhages, either spontaneous or traumatic, and particularly in a case of hemorrhage following the extirpation of a benign subcutaneous tumor, that had resisted all means employed during a period of eight weeks, but in which sodium sulphate produced immediate hemostasia.

This medication, that had been advanced by Kussmaul, is employed in Northern Germany in cases of hemophilia.

The writer, who also sought to determine experimentally the mode of action of sodium sulphate, administered it to rabbits and guinea-pigs by ingestion with their food, and intravenously, and found that it appeared to possess the power to augment the rapidity of the coagulation of blood; it would seem, however, as if this result is not obtained by hypodermic injection.

In man, therefore, sodium sulphate is best given by mouth, and not hypodermically, in order to obtain the best results.

Apioline in Amenorrhea and Dysmenorrhea

Dr. Leon Garner, in the *Med. Rev.* (Vol. 35, No. 9), gives his experience with this, the active principle of parsley, the chemical constitution of which was first shown by Chapoteaut. The drug is reddish, with a parsley odor, density of 1.115 and boiling point of 275° C. The physiological tests of Laborde showed that it increases vascularity, contracts the smooth muscular fibers of the uterus and acts directly on the genito-spinal center of the medulla. The following cases are given by Dr. Garner as typical of its great efficacy in difficult and irregular menstruation:

Case I.—Miss L., aged 19, came with a history of irregular menstruation; for the past three years it had occurred at periods of from three to six weeks, the flow was scanty and accompanied by intense abdominal pain in the region of the ovaries and tubes; the pain being so severe as to cause attacks of syncope, followed by headache.

The case appeared to be one of acute amenorrhea, and apioline was exhibited, in doses of one capsule morning and evening, for two weeks, when menstruation occurred. To her surprise and gratification the discharge was profuse, accompanied with but slight pain and no syncope or subsequent headache.

The last two periods have been normal.

Case II.—Mrs. J. F. B., aged 38; menstruation regular every twenty-nine days, accompanied with such severe pain that she had to remain in bed for two or three days at each period. Apioline administered in one capsule after each meal. At the first period the pain was less severe; in bed only one day. At the second and subsequent periods menstruation was almost painless. Here we see a well-marked case extending over a period of fifteen years making a complete recovery from the use of apioline.

Chloral and Hexamethylenetetramine

When aqueous solutions of chloral and hexamethylenetetramine are mixed, a compound is formed that separates in the form of acicular crystals, easily soluble in water and in alcohol, difficultly so in ether, and decomposed by boiling with diluted mineral acids with the formation of formaldehyd. In sealed tubes the crystals melt at 139—140° C.

The compound is intended for medicinal purposes, but clinical data are yet wanting.

Antitoxin

Dr. Joseph H. Lopez, in a paper read before the Associated Physicians and Surgeons of the Charity Hospital, Philadelphia, January 2, 1897, on the treatment of diphtheria with antitoxin, first rehearses the methods by which the antitoxin is obtained; and then goes on to say that in the treatment of diphtheria the most important step is to make an early diagnosis, and the next is to give antitoxin in sufficiently large doses as soon as the diagnosis is made. The author observes that the more rapidly the membrane spreads, the more malignant is the type of diphtheria, and the greater the danger from early toxemia. All else being equal, the more extensive the local lesion the more profound will be the degree of toxemia resulting, and the earlier will fatal toxemia appear. Because of this Dr. Lopez believes that the initial dose of antitoxin should be efficient. Antitoxin is an innocuous therapeutic agent. Should the dose be more than is absolutely needed no harm will follow. It is not well to rely solely upon antitoxin, since there are always indications for treatment which can only be met by other remedies. In the early stage, from 600 to 1000 units is usually sufficient, but when in an advanced stage 2000 units should be injected at once, and the dose repeated in ten or twelve hours, if the progress of the disease is not arrested. In an experience of over twenty years, no other remedy the writer ever employed gave such prompt, marked, and lasting results as antitoxin. The characteristic red line which makes its appearance after the successful injection of antitoxin is of great significance. It enables the physician confidently to assert that the disease is checked, and the poison neutralized.

The author has treated thirty-seven cases with antitoxin. All recovered excepting three. These were cachectic children, inmates of an asylum, who had a short time previously been attacked by a grave type of measles. In the other cases, a general amelioration of all the symptoms was noted early, and the progress to recovery was both speedy and complete. With few exceptions, but one dose of antitoxin was required. Of those immunized, not one contracted diphtheria. Dr. Lopez invariably resorts to immunization, and it has been his fortune not to have a second case of diphtheria in the same family since using antitoxin. In one instance, after drawing the usual curative dose into the syringe, he found a small quantity of antitoxin (about 250 units) remaining in the bottle. This was enough to immunize the only other child in the family. The child did not contract the disease. In six cases, the respiration was so greatly impeded when first seen that intubation was necessary to prolong life and give the antitoxin time to act. Four of the six recovered.

Benzosol

Dr. George Frank Butler, in the *Amer. Ther.* (February, 1897), in a paper on "The Therapeutics of Benzosol," says that this drug is one of the most valuable members of the salol group. Benzosol is a combination of guaiacol and benzoyl, appearing as a colorless, tasteless and odorless crystalline powder, almost insoluble in water, but readily soluble in ether, chloroform and hot alcohol. It contains 54 per cent. of guaiacol.

The author is convinced that the drug possesses decided advantages over creosote in tuberculosis. First it may be given in increasing doses with less gastro-intestinal disturbance; second, it appears to have a more favorable influence than creosote over hemoptysis. Under its influence the breathing grows calmer; there is increase of weight, with improvement of appetite, while there is a diminution of the bronchial irritation and secretion.

The remedy acts well in diarrhea, given in five grn. doses. It is likewise an invaluable intestinal antiseptic in typhoid fever. At times, especially in the summer diarrhea of children, it acts well in combination with bismuth. In cystitis, the inflamed cystic mucosa is greatly relieved by the internal administration of benzosol. The improvement is particularly marked after the urine becomes ammoniacal. It quickly renders the urine acid in reaction, and maintains its acidity. The drug is quite as efficacious in lessening the acidity of the urine due to an excess of uric acid. It, however, is much inferior to the salicylates in the treatment of rheumatism.

Benzosol has seemed, in some cases, to increase the functional activity of the liver. From this, it has been recommended in diabetes mellitus. The author has, however, tried the drug in four cases of diabetes mellitus, and there was no appreciable diminution in the excretion of sugar.

Glutoform

This substance is a new combination of gelatin and formaldehyd that is said to differ in every respect from glutol, which is also made from the same materials. The compound is made by a patented process.

Aiodin

Under the trade-marked name of "Aiodin," a new extract of the thyroid gland has been placed on the market, and is said to be tasteless and almost odorless. One gme. of aiodin is said to represent 10 gme. of fresh thyroid gland, and to contain the active constituents (the combination of iodine with the proteins) in the form naturally present, and without any subsequent addition, such as milk-sugar and the like.

Ichthyol in Eye Diseases

Dr. P. Luciani, in *Therap. Monatsh.* (1896, X, p. 627), lauds ichthyol for the excellent results obtained by its use in blepharitis, conjunctivitis and phlyctenular keratitis, simple or catarrhal conjunctivitis, and even in hypokeratitis and scleritis.

He employs a 1- to 10-per-cent. wash, and a 2½- to 10-per-cent. ointment. According to the writer, the ichthyol in these cases possesses antiseptic, anodyne, and antiphlogistic properties.

Gargle in Lacunar Tonsillitis

The *Med. Week* (IV, p. 480) gives the following:

Beechwood Creosote......	8 drops
Tincture Myrrh............	60 gme.
Glycerin....................	60 gme.
Water	100 gme.

For external use.

REVIEWS

A Text-Book of Practical Therapeutics: With Especial Reference to the Application of Remedial Measures to Diseases and Their Employment Upon a Rational Basis.—By Hobart Amory Hare, M.D., B. Sc. Fifth edition, enlarged and thoroughly revised Phila.: Lea Bros. & Co.; 1895.

In this fifth edition of his work the author has, as in his previous editions, followed the same method of arrangement. In the consideration of drugs and diseases, the writer has arranged the titles in alphabetical order according to their English names. This arrangement affords the reader a book for ready reference, for at present the state of pharmacology is so unsettled that a true classification is impossible. The present edition has been revised and enlarged, and an effort made to keep the text abreast with the latest advances in therapy. As an example, we may mention the antitoxin treatment of diphtheria.

Besides this chapter on Drugs, the volume contains several other chapters of useful reading matter. Its value as a text-book need hardly be lauded here, as its popularity as such is the best proof of its merits.

[This delayed review has just reached us from a member of the former staff of this journal.—Ed.]

Practical Notes on Urinary Analysis.—By William B. Canfield, A.M., M.D., Lecturer on Clinical Medicine, University of Maryland; Visiting Physician to the Union Protestant Infirmary, Bay View Hospital, and Hospital for Consumptives of Maryland; etc. Second revised edition. Pages, 106. Detroit, Mich.: George S. Davis; 1896. Price, paper, 25 cents.

The object of these notes is to show the tried and reliable tests for detecting normal and abnormal substances in the urine, and at the same time to point out the little errors that may be made in such an undertaking, and to guard against mistakes by clearly stating the important and carefully avoiding the superfluous.

The work will, no doubt, accomplish its purpose, and may be recommended as fully up to modern requirements We note that no mention is made of Nylander's test for sugar, and that six illustrations—numbered 12 to 17, inclusive—are taken from Tyson's "Examination of Urine," without credit.

Lectures on Renal and Genito-Urinary Diseases.—By Robert Saundby, M.D. Edin. Phila.: W. B. Saunders. Price, cloth, $2.50 net.

As the title indicates, the work is composed of a series of lectures, two of which have passed to a second edition. The volume now consists of four sections:

(1) Bright's Disease; (2) The Urine: (3) Diabetes; (4) Miscellaneous Renal Diseases.

The book is profusely illustrated with chromolithographs and woodcuts. The colored plates, representing the retinal changes in Bright's disease and diabetes, are exceptionally good.

The first 177 pages are devoted to Bright's disease. The first chapter is devoted to the normal anatomy of the kidney. The next five chapters are given to the pathology and changes of various organs directly or indirectly affected in Bright's disease. The rest of the section discusses etiology, various forms of nephritis treatment, etc.

Section two—the clinical examination of urine—is a clear and comprehensive exposition of the subject. All the essential points in the examination of urine are thoroughly gone into.

Section three, devoted to diabetes, is arranged like section one. Each special point is taken up and thoroughly discussed.

The remaining lecture, on miscellaneous diseases of the kidney, treats of stone in the kidney, hydronephrosis, etc.

The interspersing of clinical histories is an exceedingly instructive feature of the work. By the use of them, the author very clearly emphasizes particular points.

The typography is fine. The size of the book is handy, and, as a whole, the work is of sufficient merit to make it a useful addition to the physician's reference library.

Pictorial Atlas of Skin Diseases and Syphilitic Affections: From Models in the Museum of the Saint Louis Hospital, Paris.—Edited by J. J. Pringle, M.D. Part VII. Phila.: W. B. Saunders. Price per part, $3.

With one exception, all the illustrations in this part are of syphilitic affections. The first plate is a fair picture of a bromide eruption. The only criticism is, perhaps, the color is not sufficiently accentuated. If the title and explanatory text were absent, it might be mistaken for some syphilitic eruption. The other plates are excellent, especially the last two, "gangrenous tubercular syphilide" and "gangrenous gumma." The descriptive text throughout is very valuable, for it gives, in a very concise manner, the history of the case from which the original model was made. The press work is, as in the preceding parts, first class.

As the work progresses, it grows more and more apparent that this atlas is destined to become of greater value, for in its pages the general practitioner, as well as the specialist, will find much to aid in diagnosing many cutaneous manifestations.

Principles of Theoretical Chemistry: With Special Reference to the Constitution of Chemical Compounds.—By Ira Remsen, M. D., Ph.D., Professor of Chemistry in the Johns Hopkins University, Baltimore. New (fifth) and thoroughly revised edition. Pages, 328. Phila.: Lea Brothers & Co. Price, Cloth, $2.

The appearance of a fifth edition of this treatise is in itself a guarantee that the work has met with general favor. This is further established by the fact that it has been translated into German and Italian.

The work is, as the author states in his preface, "a brief treatise on those facts and speculations that have to deal especially with the problem of the constitution of chemical compounds." In this it appears to us that the author has succeeded admirably.

The treatise is especially adapted, however, to the laboratory student, one who has an abundance of time and all the necessary facilities with which to study carefully the laws and theories of chemistry. It ranks unusually high among the works of this class. This edition, like all the former editions, has been brought fully up to the times.

While this treatise is particularly adapted to the use of the student in chemistry, a careful perusal, by the general practitioner, of this little book would more than repay him for the time expended.

Food in Health and Disease.—By I. Burney Yeo, M.D., F.R.C.P., Professor of Therapeutics in King's College, London. Second Edition. Pages viii + 592. Phila.: Lea Brothers & Co.; 1896.

This work, upon Food in Health and Disease, is one of the best that has been placed before the profession. This, the second edition, is fully a third larger than the first, which appeared a number of years ago. This increase has been made necessary by the many advances that have been made in this department of science, and also by the addition of an entirely new section.

In the present edition the reader will find a very complete account of the composition of almost every kind of food-stuff in common use. Their preparation and digestibility are fully discussed.

Chapter XI is an especially interesting and valuable one, devoted as it is to the discussion of food in relation to age and condition.

The second part of the book has been greatly enlarged and made more complete than the former edition. In this section we find a detailed account of the special diet that is particularly adapted to each disease.

An entirely new feature is found in Appendix II. Here we find a brief, yet quite a complete and practical account of the methods in vogue for the sterilization and pasteurization of milk. This addition is especially valuable, now that this method is almost universally recommended in infant-feeding.

The book, taken as a whole, is one that should be in the hands of every practitioner of medicine.

◆

Ichthyol in Trachoma

Dr. M. Eberson, in *Therap. Monatsh.* (1896, X, p. 627), states that he has found ichthyol to be an excellent remedy in trachomatous conjunctival or corneal affections. He greatly prefers it to the copper sulphate pencil or lunar caustic, as it burns much more rapidly, and its application causes no pain. He uses the following mixture:

Ichthyol	5 parts
Distilled Water	4 parts
Glycerin	1 part

With this the everted lids are thickly painted, the mixture permitted to stay on for from sixty to ninety seconds, and then thoroughly washed off with clean water.

The ichthyol treatment is indicated in every stage of trachoma. For children, a weaker solution (about 30-per-cent.) must be used. The writer also finds that the ichthyol acts as an analgesic and vaso-constrictor, and to this ascribes its excellent effects in trachoma, whose chief characteristics lie in chronic vascular dilatation and hyperplasia of the conjunctival tissues.

CORRESPONDENCE

In the Interests of Medical Science

To Members of the Medical Profession, Individually:

As there is evidence tending to prove the theory that all persons predisposed by heredity to consumption have a respiratory capacity or action insufficient for good vigorous health, probably a proportionately small chest with insufficiency of lung membrane—that the predisposition is mainly or primarily due to this cause; in other words, that the insufficient respiratory function is the special primary feature of the predisposition (a condition which may be, practically, acquired by habit, occupation, etc.), I desire the co-operation of the profession in an endeavor to help to establish, by means of collective investigations, the correctness, or otherwise, of this theory.

In this behalf I hereby ask all physicians who have patients predisposed to, or in the early stage of, consumption, to send to me (on a post-card will suffice) the information below indicated. As soon as I can study and collate the replies I shall make the results known to the profession.

Give (1) name (or initials); (2) sex; (3) age; (4) occupation; (5) height; (6) weight (average, when in usual state of health); (7) circumference of the chest on a level with sixth costo-sternal articulation when momentarily at rest after an ordinary expiration, and also (8) after habitual natural expansion or inspiration (which last (8) usually exceeds the first measurement, expiration (7), by an increase of only about one-fourth of an inch); finally (9), the circumference after a *forced* expiration, and also (10) after a forced inspiration (these two measurements (9) and (10), varying or showing a range of from 1½ to 4 inches). The patient should, of course, be as calm as possible, and had better, usually, practice the *forced* breathing for a few acts before these two last measurements (9) and (10) are taken.

To be of value, all four measurements should be taken as carefully, accurately, and as free from haste as possible.

Any further information, in brief, as to degree of heredity (family history) in cases, *prominent* symptoms, loss in weight, cough, dullness on percussion, etc., etc., or any remarks, will be a decided advantage.

Measurements of two cases, or several, or the average, could be given on one card.

With the hope that many will comply with the above request, and with much respect for and interest in the profession, I am,

Yours truly,
EDWARD PLAYTER, M.D.,
Ottawa, Ontario.

A Correction

To the Editor of the A. M.-S. BULLETIN:

In your issue of March 10, under head of "News," you say: "The Camden (N. J.) Medical Society is after a member whose portrait appeared in a Philadelphia morning paper," etc. Some of the members of the society felt injured by claims made for the doctor in that article, and asked the Board of Censors to make an investigation according to the constitution and by-laws. This inquiry was full and complete. No complaint was made about the press. The doctor maintained the truth of his claims even after they were clearly proven untenable. For this

the society reprimanded him. Numerous articles have since been furnished by someone to the public press, which if you compare with this statement, taken from the official records, are not true, and are likely to bring reproach upon one of the best known and successful county societies in New Jersey. JNO. R. STEVENSON,
Chairman Board of Censors, Camden District Medical Society, N. J.

Haddonfield, N. J.

Consanguineous Marriages

To the Editor of the A. M.-S. BULLETIN:

I have for some time been trying to find authentic statistics regarding consanguineous marriages, but have been unsuccessful. A physician has referred me to you. Would you kindly tell me through the pages of your journal where I can find the advice and opinions of doctors on the subject? MISS A. HOWELL.

Boston, Mass.

An article, giving statistics, on "Consanguinity of Parents in Relation to Idiocy" was published in the *Phila. Polyclinic* (1895, Vol. IV, No. 13) and was digested in the BULLETIN of June 15, 1895. An article on the "Influence of Heredity in Disease" appeared in the *British Medical Journal* (No. 1834) and was digested in the BULLETIN of April 18, 1896. The following books may also be of interest: Richardson's "Diseases of Modern Life," $2.00 (D. Appleton & Co., New York); Strahan's "Marriage and Disease," $1.25 (Appleton); and Huth's "Marriage of Near Kin," $2.50 (Longmans, Green & Co., New York).

Cerebro-Spinal Meningitis—New York Academy

To the Editor of the A. M.-S. BULLETIN:

(1) I am anxious to obtain some recent literature on cerebro-spinal meningitis. Can you cite me to any? (2) How can I get the transactions of the New York Academy for 1895 and 1896? B. W. SMOCK.

Oakland, Ky.

(1) Perhaps Macewen's "Pyogenic Infective Diseases of Brain and Spinal Cord, Meningitis, Abscess of Brain, Infective Sinus Thrombosis," $6.00 (Macmillan & Co., New York) is what you want. (2) Write to the Secretary of the New York Academy of Medicine, 17, 19 and 21 West Forty-third street, New York.

The State Pharmacy Law as Affecting Physicians

To the Editor of the A. M.-S. BULLETIN:

Will you kindly state in the columns of the BULLETIN whether or no it is necessary for a physician—one of course who has graduated from an accredited college—to pass an examination before the State Board of Pharmacy, before he can legally engage in the business of a druggist? AN ENQUIRER.

In New York State the fact that one is a physician does not entitle one to special privileges for admission to the practice of pharmacy. According to the present State Pharmacy law candidates for license as Pharmacist must have had four years,' and for license as Assistant Pharmacist, must have had two years' experience in the practice of pharmacy to be eligible to the Board's examinations, and further they must prove to the Board of Pharmacy in making their applications that they are residents of the district for which the State Board of Pharmacy is created, or if non-residents, that they intend to practice in said district, and that they have not applied for a license to, nor been examined by, any other Board of Pharmacy of this State and been refused such license within six months immediately preceding, which proof may be made by their own affidavits. This law, however, does not apply to the counties of New York, Kings, and Erie.

For further information on this subject, address Edward S. Dawson, Jr., Secretary of the New York State Board of Pharmacy, Syracuse, N. Y.

The Plague Diplococcus and Rats

To the Editor of the A. M.-S. BULLETIN:

First let me congratulate you because of the greatly improved leading articles, which again are of the kind that characterized the journal some 1½ or two years or so ago and which gave to the paper its prominent place.

In your article "Microbic Virulency" you make a remark based upon that philosophical deduction (induction ?) which when built upon real knowledge is the lever by which science has been brought forward. You say that the diplococcus of the plague may attain its virulency by passing through the tissues of the rat. At the same time you state that a mild or innocuous variety is met with in the soil. Now rats probably—in the latter case—swallow these soil-diplococci constantly, simply judging from the nature of their food, and yet there are times when the rats do not suffer from the disease. They do so only at the beginning of epidemics and probably all through such, which would seem to prove, that for them too the diplobacterium has first to develop that virulency, which alone makes it the potent and sole factor of the plague. There must be other elements causing the virulency. We know of most pathogenic bacteria, at least of those giving rise to sudden epidemics, that in the stage of their most active development the rapid formation of the most virulent toxins leads to the destruction of the bacteria themselves and makes those surviving innocuous. May it not be, that in such cases, after they have been in existence for varying periods following their greatest activity, certain thus far unknown conditions cause them gradually again to acquire their former virulency? I doubt whether Darwin's "Natural Selection" would operate in the pure cultures of the laboratory; there surely are conditions in nature, under which these bacteria may regain their virulency, though in the laboratory each new generation seems to lose it. But even here, perhaps, if continued long enough—it often takes years for an epidemic to reappear—the same result as to virulency may finally be obtained.

I have not the time just now to enter more fully upon the subject, and only wished to draw your attention to the fact first quoted concerning the rôle which the rats may or may not play in the production of the plague. HUGO ENGEL.

Philadelphia, Pa.

American Medico-Surgical Bulletin

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EDITOR'S NOTES

A medical editor writes to the BULLETIN from Michigan, saying: "Your journal has been of more benefit to me than any journal I have received. I get more information from it in my line than from any other source." All such notices are very pleasant for us to receive, and we shall try to merit more of them, but of course there are many journals that others prefer to ours. It is a matter of adaptation, and we shall endeavor to adapt ourselves to the wants of the largest possible number of medical men.

We have received a private letter from a reader of the BULLETIN finding fault with the use of the words "death-rate" in the Editorial on "A Medical Paradox" in our last number. We used these words in their oldest and deepest sense, in lieu of better ones. The habit of Boards of Health of giving death-rates in ratios per thousand has fixed on the minds of many medical men the belief that this is the only correct sense in which these words can be used. In the case before us such a use would lead to nonsense. The only ratio or rate that can be drawn for the world's total of deaths is a time one. The number of deaths in any two decades or centuries as the case may be, will be the death-rate and the only death-rate when the world's total population is considered. A ship's speed-rate, or a train's rate, is never given in percentage, but in times. The rate of sales in a business is not a per cent. or per mille rate.

The Providence Medical Association, at its last annual meeting, put itself on record as favoring antitoxin in the following resolutions:

Resolved, That the proper use of the Diphtheria Antitoxin Serum is the best means that we have of antagonizing the effects upon the human system of the disease called diphtheria, and supposed to be caused by the Klebs-Loeffler bacilli.

Resolved, That the present method of determining the presence of the disease called diphtheria, by bacteriological examinations of cultures from swabbings taken from the parts suspected of being infected, is the most accurate of all methods in use.

A late editorial in the London *Lancet* shows that the antivivisectionists of England, not content with having placed physiologists under police surveillance, are hard at work manufacturing public sentiment in favor of completely forbidding all experiments upon animals. A correspondent of the *Lancet* tells how they are making a house-to-house canvass for signatures to their pledges and distributing literature that is gotten up "to blast the reputation of the medical profession." He closes by asking "whether something ought not to be done to check this wholesale slanderous vituperation."

Michigan editors seem to be interesting themselves in the proposed medical law for that State. A Grand Rapids journal sagely suggests that educated medical men, while interesting themselves in protecting the people against quackery, should not forget that there are other features of the problem to consider. He adds that there should be included in the provisions of the proposed law "a clause prohibiting physicians and surgeons from performing any dangerous surgical operation upon any man, woman or child without having first fully acquainted the nearest relatives, as well as the patient, with the nature and degree of the risk to be incurred." We do not know how Michigan surgeons act in such cases, but in New York it is customary for medical men to do this without regard to law.

The seventh annual meeting of the National Confederation of State Medical Examining and Licensing Boards will be held in the small banquet hall of the Hotel Walton, at Philadelphia, Monday, May 31, at 10 a.m. An interesting programme of addresses and debates has been prepared for the occasion. The object of the confederation is to consider questions pertaining to State control in medicine and to compare methods in vogue in the several States; the collection and dissemination of information relating to medical education, and to consider propositions that have for their purpose advancement of the standards in the United States. A cordial invitation is extended to all members and ex-members of State medical examining boards, and to physicians, sanitarians and educators who are friendly to the objects named, to attend the meeting and participate in its proceedings.

The annual announcement for the fiftieth anniversary of the American Medical Association has been issued. It gives the kinds of societies that are entitled to representation by delegates, how to become a member by application, instructions concerning registration, proposed amendments to the constitution and by-laws, extracts from the by-laws concerning addresses, papers, reports, etc., and a list of the officers of the sections. The presidential address will be given by Dr. Nicholas Senn, of Chicago; the address on surgery by Dr. W. W. Keen, of Philadelphia; that on medicine by Dr. Austin Flint, of New York; and that on State medicine by Dr. John B. Hamilton, of Chicago. The committee of arrangements is under the direction of Dr. H. A. Hare, 222 South Fifteenth street, Philadelphia. The first session will begin in Philadelphia on Tuesday, June 1, at 10 a.m.

American antivivisectionists are circulating a petition for signatures that reads: "I am opposed to vivisection, and hereby petition for its total abolition." Did they confine themselves to this measure, medical men would deem it a fair fight and ask no favors. When they also ask the public to sign a pledge that reads: "I PLEDGE to never knowingly employ a physician practising *or upholding* vivisection," then it is about time that honest indignation be aroused against them. Has it come to such a pass in free America that a man is not permitted to believe as he pleases and to uphold what he pleases without being threatened with starvation by having his means of livelihood stolen away from him? Politics and political ostracism are bad enough, but this is the lowest dregs of bigoted villainy. Is it a crime to believe and thereby uphold any honest opinion? Antivivisectionists seem to think it is. The rack is renewed in the boycott, and burning at the stake would soon follow if they dared. Such moral atavism surely must be ephemeral.

Has Boston no ice? Simon M. Landis, who by some sort of study has secured the right to place M. D. after his name, lately came out in a Boston paper with the following interesting challenge. His fevered head surely needs cooling:

> I hereby challenge all the medical doctors (who claim that medicines cure patients or are capable of creating human cells, organs, glands, etc.) to open debate by tongue or pen. I brand the whole gang as quacks, because their anatomy is morbid, their physiology is false, their pathology is a mystery, and they are "disease producers," "nerve killers," "symptom doctors," "embalmers of human tissues," "patchers and materialists."
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> They have no faith in their own remedies, are totally ignorant of the modus operandi of medicines, and don't understand the normal wants of a healthy human being. They are multiplying diseases, deformities, hereditary complaints and congenital criminals. They are a curse to the nations, and should be compelled to reform or debate with me or take back seats on the anxious bench with all impenitent sinners and incompetent mountebanks!

Our thanks are tendered to the Canada *Medical Record* and the *Sanitarium* for their pleasant and flattering notices of the BULLETIN. The *Record* says that "this (the BULLETIN) is one of the best-conducted journals of the United States, and at the low subscription price at which it is now placed becomes the best investment for the money now available. We wish it every success, and feel assured that it only has to be known in its present style to secure a wide circulation." The *Sanitarium* says that the new editor of the AMERICAN MEDICO-SURGICAL BULLETIN "is an admirable skimmer—he knows good cream and gives it." The editor of the *Sanitarium* certainly deserves the same kindly notice for himself, and we can truly say that the Canada *Medical Record* is one of the most interesting and best conducted journals that reaches us from across the border. Both of these journals are always sought for by us among those we choose for careful reading.

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Professor Muraoka, of Tokio, has succeeded in producing *x*-ray photographs with the light of 300 glow-worms. These worms also emit ordinary light.

Dr. Meissner, of Berlin, at the last meeting of the Dermatological Society of that city, killed a rabbit in twenty minutes, in the presence of his audience, by cataphorically introducing strychnine through the skin from the positive pole of a battery in which the current was inverted every five minutes.

NEWS

A Maine Medical School has a student aged 60.

A Society for Medical Research has been started in Cincinnati.

Sixty Philadelphia doctors have formed a protective and collecting association.

Iowa and South Carolina are soon likely to have laws driving out itinerant doctors.

St. Louis doctors have started a crusade against co-operative medical associations.

Dr. J. C. Da Costa has been elected Clinical Professor of Surgery at the Jefferson Medical College.

A Woman's Charity Hospital, in which all beds are free, was opened in Chicago, Ill., on Feb. 23.

The Albany (N. Y.) Institute, on March 10, considered the matter of filtering water supplies for cities.

It is said that the Ohio State Board of Health is about to make a thorough investigation of antitoxin.

Prussia has instituted an official tariff for court use in cases where medical men are blamed with overcharging.

The Scientific Society of Rochester, N. Y., has taken up the study of the effects of Röntgen's rays on bacteria.

Ex-Surgeon-General Hamilton proposes to try and have Surgeon-General Wyman deposed by President McKinley.

The San Francisco Board of Health has issued orders that no Chinaman shall hereafter spit on clothes that he is ironing.

The veterinary surgeon of the San Francisco Board of Health examined 1700 cows, 300 of which were afflicted with tuberculosis.

A new Western Pennsylvania Medical and Surgical Hospital, containing fourteen buildings, is to be erected in Pittsburg, Pa.

A Washington, D. C., doctor, who does not believe in hydrophobia, offers $100 to whoever will show him a case of that disease.

According to Roger, in the *Société de Biologie*, as quoted by the *Bulletin of the Pasteur Institute*, antitoxin is elaborated in the bone-marrow.

Worcester, Mass., has an ambulance. One night lately it also had a fire, attended by several serious accidents. Neither telephone calls, nor other calls, could find either surgeon or ambulance. The *Gazette* of that city wants to know if the people desire to wait for "another warning," or will they dismiss the sleeping functionaries who could not be wakened.

Alderman Gazzolo, of Chicago, deserves the thanks of the community for initiating legislation against cocaine and arsenic catarrh cures.

The Supreme Court of Wisconsin has decided that the State Board of Health cannot insist upon the vaccination of those who are opposed thereto.

The next meeting of the American Association of Physicians and Surgeons will be held at the Plankinton Hotel, Milwaukee, Wis., June 2, 1897.

Skiagraphy lately enabled Dr. Geo. R. Fowler to conclude that it was practical to remove two supernumerary right hands from a little girl with three.

The University Medical School and the University of the City of New York have consolidated. The former is now a department of the latter.

The Massachusetts Senate refused to pass the bill giving the bodies of people dying in charitable institutions to colleges for purposes of dissection.

A Wisconsin legislator offered to vote for the bill before the law-makers of that State, seeking to advance medical education, if the doctors would pay him $100.

Chief Crawley, of San Francisco, Cal., says that the anti-expectoration law is a good one, but he would have to detail twenty thousand policemen to execute it.

The Medical Society of the County of Kings, N. Y., will celebrate its seventy-fifth anniversary at Pouch Gallery, Clinton street, Brooklyn, on Monday, April 12, at 8.30 p.m.

Dr. Pagenstecher, of Wiesbaden, has been treating Queen Victoria for failing vision. She is now in the Riviera, and was nearly killed a few days ago by a fractious horse.

Rutland, the diploma manufacturer, has dissolved the corporation of the fake Wisconsin Medical College of Milwaukee. There are many so-called graduates of his practicing in the West.

The Oklahoma Legislature is considering the advisability of passing a law making it impossible for an habitual drunkard or morphine fiend to practice medicine or hold any position of trust.

In 483 cases of diphtheria in the Children's Hospital at Frankfort-on-Main, all of which were treated with antitoxin, only 7.03 per cent. were fatal. The percentage of fatal cases in 1894 was 36.4.

The Pennsylvania Society for the Prevention of Tuberculosis is contemplating the erection in that State of a mountain hospital for consumptives. The American Invalid Aid Society of Boston seeks to acquire an abandoned military reservation in New Mexico for the same purpose. They have petitioned Congress to grant them the site.

In 1896 there were twenty-four accidental deaths from asphyxiation in Boston. This has directed public attention to the quality of the gas being furnished in that city. A legislative inquiry is likely to result.

An organized gang of horse-thieves has been recently victimizing the Harlem doctors. Four physicians have had their horses and carriages, that were left standing in the street, stolen from them.

The Cincinnati Academy of Medicine has passed a resolution creating a fund for the purpose of defraying the expenses of its members in defending themselves against suits for malpractice.

The transatlantic steamship companies have refused to make any reduction in their rates to the delegates and medical men who design attending the Twelfth International Medical Congress at Moscow, Russia.

A Burlington, Vt., doctor has sued a druggist who refused to fill a prescription of his, on the ground that it was dangerous. This claim of the druggist lost the patient to the doctor. The damages asked are $3000.

A Providence, R. I., physician was recently brought before the Sixth District Court on the charge of cruelty to his animal, because he allowed his horse to stand in the street, for nearly an hour, without covering him.

On March 9, Magistrate Mott, of New York city, fined Thomas Evans, an engineer, $5 for spitting in a trolley car. This is the first person punished in New York city under the law against expectorating in public places.

An Oakland, Cal., physician has observed that vaccinia antagonizes diphtheria. Two cases lately under his care recovered quickly from attacks of diphtheria, because of their having been vaccinated just previous to the attack.

The Committee of Arrangements of the Indiana State Medical Society is sending out plans of their exhibition hall to exhibitors and others. The society mets at Indianapolis on May 20-21. About 500 physicians are expected to be present.

The contract for the printing of the proceedings of the Pan-American Medical Congress has just been given to a firm in the city of Mexico. There will be two volumes of 1000 pages each, containing 400 plates, and printed from virgin type.

Washington, D. C., is about to organize a Sanitary Improvement Company to provide sanitary dwellings for the poor. A mass meeting was held at the Foundry M. E. Church to consider the matter, and Dr. Sternberg spoke in its behalf.

The Missouri State Medical Association will meet in St. Louis from May 18 to 20. Until noon of the third day the sessions will be devoted to their own scientific work, but on the evenings of the first and second days there will be joint meetings with the Illinois Society. A steamboat excursion, a banquet, and a reception will enliven the occasion.

The South Dakota and Missouri legislatures have disgraced themselves before all the world by degrading the medical degree. They did not seem to know that the granting of charters to Osteopaths was the same as granting charters for universities to teach a, b, c students.

The forty-fifth annual meeting of the Northeastern District Medical Society of Michigan was held in Detroit on Feb 5. The following officers were elected for the ensuing year: President, Dr. Elizabeth M. Farrand; vice-president. Dr. C. B. Burr; secretary and treasurer, Dr. A. J. Abbott.

At a meeting of the New York Society of Medical Jurisprudence, held on March 8, 1897, Mr. Stephen C. Baldwin read a paper entitled "Are the Doctors all Criminals?" He held that all doctors were technically criminals, under section 193 of the Penal Code, which defines "Manslaughter in the second degree as causing, by any act, procurement or culpable negligence, the death of any person." If a physician prescribes for a patient, and next day violent emesis occurs therefrom, causing death, or if a physician, by opening a window for purposes of ventilation, brings on pneumonia, he is liable under the statute.

The Governor of Pennsylvania, in his late message, says:

"In this State the riparian owner justifies the presence in our public streams of the carcasses of animals dead of diseases, of solid refuse of tanneries and slaughter houses, the garbage and night soil of public institutions, factories, villages and towns, the washings of vast culm deposits, and the output of abandoned salt wells. Such water pollution, so injurious to public health and morals, it must be admitted, is more prevalent to-day than when the work of the State Board of Health was commenced, and the persistent determination to continue it becomes more apparent day by day. The streams of our State naturally, or with the assistance given by the Fish Commission, would furnish to our people a large and never-failing supply of food fish. The constant and disgusting contamination to which they have been subjected, from the small mountain streams to our largest rivers, has practically killed off the fresh water fish of the State, and destroyed the natural source of pure water supply to many of our centers of population."

OBITUARY

Dr. Peter D. Keyser, in Philadelphia, on Tuesday, March 5, 1897, in the 62d year of his age. Dr. Keyser was one of the oldest and most eminent ophthalmologists in this country. He was one of the founders of the Philadelphia Eye and Ear Hospital; Emeritus Professor of Ophthalmology at the Medico-Chirurgical College; Surgeon to the Wells Eye Hospital, and was a member of the Philadelphia Board of Health.

Dr. John Craig, aged 88 years, in Geneseo, N. Y., on Sunday, Feb. 21.

Dr. Henry K. Huntington, in City Island, N. Y., on Feb. 28, in the 52d year of his age.

Dr. Gratz Moses, aged 85 years, in St. Louis, on Sunday, Feb. 21.

Dr. Alexander E. Thompson, in Bougue, Miss., on Friday, Feb. 26.

NATIONAL MEDICAL SOCIETIES

Annual Meetings

Name of Society	Place	Time	Secretary	Residence
American Academy of Medicine	Philadelphia, Pa.	May 29-31	Dr. C. McIntyre	Easton, Pa.
American Academy of Railway Surgeons	Chicago, Ill	Sept.	Dr. D. C. Bryant	Omaha, Neb.
American Assoc. Genito-Urinary Surgeons	Washington, D. C.	May 4-6	Dr. W. K. Otis	New York City.
American Assoc. Obstetrics and Gyn.	Niagara Falls, N. Y.	Aug. 17-20.	Dr. W. W. Potter	Buffalo, N. Y.
American Climatological Association.	Washington, D. C.	May 4-6	Dr. G. Hinsdale	Philadelphia, Pa.
American Dermatological Association	Washington, D. C.	May 4-6	Dr. J. T. Bowen	Boston, Mass.
American Electro-Therapeutical Assoc.	Harrisburgh, Pa.	Sept. 21-23	Dr. M. Einhorn	New York City.
American Gynecological Society	Washington, D. C.	May 25	Dr. J. Riddle Goffe	New York City.
American Laryngological Association	Washington, D. C.	May 3-7	Dr. H. L. Swain	New Haven, Conn.
American Laryngological, etc., Society	Washington, D. C.	Apr. 30, May 1	Dr. R. C. Myles	New York City.
American Medical Association	Philadelphia, Pa.	June 1-4.	Dr. W. B. Atkinson	Philadelphia, Pa.
American Neurological Association	Washington, D. C.	May 4-6	Dr. G. M. Hammond	New York City.
American Ophthalmological Society	Washington, D. C.	May 4-6	Dr. S. B. St. John	Hartford, Conn.
American Orthopedic Association	Washington, D. C.	May 18-21	Dr. J. Ridlon	Chicago, Ill.
American Otological Society	Washington, D. C.	May 4	Dr. J. J. B. Vermyne	New Bedford, Mass.
American Pediatric Society	Washington, D. C.	May 4-6	Dr. F. A. Packard	Philadelphia, Pa.
American Physiological Society	Washington, D. C.	May 4-6	Dr. W. H. Howell	Baltimore, Md.
American Public Health Association	Philadelphia, Pa.	Sept.	Dr. I. A. Watson	Concord, N. H.
American Surgical Association	Washington, D. C.	May 4-6	Dr. M. H. Richardson	Boston, Mass.
Army and Navy Medical Association	East St. Louis, Ill.	May 18	Dr. E. P. Bartlett	Springfield, Ill.
Association of American Anatomists	Washington, D. C.	May 4-7	Dr. D. S. Lamb	Washington, D. C.
Association of American Physicians.	Washington, D. C.	May 4-6	Dr. H. Hun	Albany, N. Y.
Association of Military Surgeons of U. S.	Columbus, O.	May 25-27	Dr. H. Burgin	Philadelphia, Pa.
Canadian Medical Association	Montreal	Aug.	Dr. F. N. G. Starr	Toronto.
Mississippi Valley Medical Association.	St. Paul, Minn.	Oct. 19-22	Dr. H. W. Loeb	St. Louis, Mo.
National Association of Railway Surgeons	Chicago, Ill.	May 4-6	Dr. C. D. Wescott	Chicago, Ill.
Southern Surgical and Gynec. Assoc.	Nashville, Tenn.	Nov. 10	Dr. W. E. B. Davis	Birmingham, Ala.
Tri-State Medical Society	St. Louis, Mo.	April 6-8	Dr. G. W. Cale	St. Louis, Mo.
Western Ophthalmological, etc., Assoc'n	St. Louis, Mo.	April 8-9	Dr. H. Foster	Kansas City, Mo.
Western Surgical and Gynec. Assoc'n	Denver, Col.	Dec. 28-29	Dr. H. E. Pearse	Kansas City, Mo.

PUBLISHERS' DEPARTMENT

THE AMPLIPHONE

Attention is called to the advertisement of this remarkable instrument for physical diagnosis which is now attracting so much attention in the medical world. The ampliphone is the new ally of the Röntgen rays in medical practice, and will prove a valuable aid to the physician in determining pathological conditions.

STONE'S PATENT JULEP STRAWS

The paper straws made by M. C. Stone, of Washington, are now being largely used in sanitariums, hospitals, and by physicians generally, for administering medicines and nutriment. They are made of manilla paper saturated with hot paraffine wax, and are entirely free from taste or odor. The natural straw will occasionally be found cracked or musty. Stone's Patent Julep Straws are always clean and perfect.

PRIZE OFFER

The Resinol Chemical Co., of Baltimore, Md., offer six very handsome prizes for clinical reports on the employment of their preparation, Unguentum Resinol, in the various skin diseases. The prizes offered are as follows: First prize, $100, for the best report of not less than five cases; second prize, $60, for the next best report of not less than five cases; third prize, $75, for the best report of not less than three cases; fourth prize, $40, for the second best report of not less than three cases; fifth prize, $50, for the best report of a single case in which Resinol was used; sixth prize, $25, for the second best report of a single case in which Resinol was used. All articles must be received by the Resinol Company by May 15. The offers are made to all practicing physicians. The advertisement of the company can be seen in another part of this issue.

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Formaldehyd in Gonorrhea

Dr. G. T. Howland (*Jour. Cutan. and Gen. Ur. Dis.*, 1896, p. 227) gives five histories of cases, of acute gonorrhea, treated by hot retrojections of formaldehyd in solution of 1-200, uniformly successful, each case covering a period of two weeks' treatment. The treatment for the first two or three days was given twice a day, and after this once a day, until the discharge ceased to contain gonococci. In all five cases he seems to have succeeded in keeping the discharge in the anterior urethra, but unfortunately he does not tell us how long disease had existed before coming under treatment, which robs the cases of the real value which they might possess as showing the success of the treatment, and two of the cases only were a first attack.

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EDITORIAL

EXPERIENCE AND EXPERIMENT IN SANITARY PROGRESS

As an ounce of prevention is held to be worth a pound of cure, it might be well to enquire how our knowledge of the ways of preventing disease has been acquired. How, for instance, did we first discover that pure air is an essential of health? How did we find out what constitutes pure air? How did we learn the difference between pure and impure air? Again, if we turn our attention to water, by what process of reasoning did we ever reach the conclusion that the clearest of clear water may be the foulest of the foul? How did we discover that water can be a disease-carrier? Looking in still other directions, let us note that milk and food, clothing and dust, flies and mosquitoes, garbage and sewerage, have each come in for their share of blame as disease conveyors. How did we ever come by such suspicions or knowledge? How did the surgeon learn to guard against gangrene, putrefaction, suppuration and hospital fever? How came quarantine officers by the knowledge they use in fighting back cholera and plague? How did we succeed in almost completely banishing jail-fever, typhus fever, and puerperal septicemia? In a word, what is the source of modern sanitary science? Was it acquired by introspection, by experience or by experiment? No reasonable person now doubts its great value. Even those who sneer at medicine praise hygiene. It is, of course, impossible to estimate, except in the roughest sort of a way, the vast number of lives that sanitary measures have saved or the amount of suffering they have checked. We only know that it is very great. Plague and pestilence have been stayed in their ravages at its command. No longer do these leave cities desolate. No longer are the dead too numerous for the living to give them proper burial. No one now sees trenches dug to take the place of graves, nor uncoffined corpses borne by the wagon-load and dumped therein. Great scourges seldom come, and when they do it is to places where the simplest laws of sanitation are violated daily. That the young still die is usually evidence of our ignorance of how to prevent disease, but sometimes of a wilful refusal on our part to act upon the knowledge we possess. Again, we ask how came mankind to secure such knowledge? Was it picked up in the school of ordinary experience?

Froude, in his "Short Studies on Great Subjects," tells us that "experience teaches slowly and at the cost of mistakes." The history of the advancement of sanitary science shows that this is but a tame expression of a terrible truth. The world has had an endless procession of sad and bitter experiences, and none so sad nor so bitter as those that have come from ignorance of what are now simple sanitary facts. Plain, disconnected, unguided experience never taught the human race enough such facts to protect them from a single pestilence or to lessen the mortality from a single disease. Only when inductive science came and put intelligently planned experiments in the place of haphazard experience was a single advantageous step taken. Up to that time hecatombs of victims were forced to perish on the altar of experience, sacrificed by the demons of plague, pestilence and pitiless disease to the insatiable demands of ignorance. Agony unspeakable, torture indescribable has been the lot of man and beast from century to century throughout the dark, dismal past. "The whole creation groaneth and travaileth until now." Prayers have mingled with cries while the piteous moans of pain-tortured beings have been one unending petition for relief through days, years, centuries, and millenniums. We live in a world of inexorable law. There was but one channel through which relief could come, but no one sought it there. The causes of all this suffering must be known, and the methods of their control discovered, otherwise it must go on forever. Knowledge is power. Knowledge of earthly things has never yet led to an understanding of causes without experiments. To know the laws of chemistry we must experiment with chemicals. To know the laws of pain, of disease, and of death, we must experiment with pain, with disease, and with death. Every form of pain, every form of disease, every form of death to be fully known, can only be known by intelligently conducted examinations of them. For ages our fathers saw men breathe. Again and again must they have observed deviations from the usual method of breathing. To them the breath was the life or spirit. Breathing was the going in and out of vitality. When it stopped man was dead. Diseased breathing, to their fancy, was a battle between a demon and the man's own spirit as to which should have the mastery. The irregularity of the breathing was the irregularity of the struggle between the two. To cure was to exorcise the demon with a prayer, a charm or a remedy God had indicated by his signature.

After millenniums of experience this is as far as the race got until John Mayow, a young Oxford physician, became sceptical of such doctrines, defied society's prohibition of experimentation, and proceeded to find out just why animals breathe. Up to his time the world knew nothing about ventilation or its uses. No one saw any connection between close, foul rooms and disease. They had no idea of rebreathed air being dangerous or deadly. They went on intensifying mild diseases into pestilences by living in close, badly ventilated apartments, and then explained the result as a scourge of the Almighty, chastising them for lack of fealty to their faiths. Their homes, their churches, their public halls defied every law of sanitation. In 1674, by the painful, slow, suffocating to death of some animals, all this was changed as if by magic, and a new era dawned upon mankind. Mayow showed that the agony and death of a suffocated animal were due to the consumption of a constituent of the air, and that a lighted candle would consume the same constituent. He put his animals into air-tight jars and allowed them to die slowly while he watched them. He found that a mouse would in time make the air in the jar extinguish a candle. He also found that a candle burnt in the jar would cause the air to kill a mouse. He likewise discovered that a mouse and a lighted candle, if placed together in the jar, would each be extinguished quicker than if only one was present. As soon as these facts were known, they distinctly negatived all the superstitious notions concerning ghosts and demons as causes of health and disease.

At a later day Black, by aid of more experiments on animals, discovered the effects of carbon dioxide. Priestley, too, determined the life-giving quality of his ogygen or dephlogisticated air in the same manner. Rutherford and Lavoisier followed the same course in proving that nitrogen would not support life. The foundation stones of Modern Chemistry were, therefore, laid in this kind of vivisecting. Who will say that so grand a structure is not worth a million more such lives than those it cost? Think of the multitudes of human beings who have been saved from disease and death by our knowledge of how to properly ventilate our homes and public buildings since that time. To say that this is not worth all and vastly more than it cost is to talk with the wildest possible disregard for truth. We now know that breathed air is unfit to sustain life, because it contains carbon dioxide in excess of normal air, because its oxygen is diminished in proportion to the whole, and because oxygen once breathed assumes a condition of negativity that makes it incapable of sustaining human life, though it can sustain batrachian life. We also know that oxygen, though the life-supporting constituent of the air, requires dilution with nitrogen fully to adapt it to the requirements of human health. All of these important facts have been determined by so-called vivisectors. Experiments, not experience, brought the needed light.

Will those opposed to animal experiments suggest how the facts of ventilation could ever have been established in opposition to the false theories of early times without such experiments?

DANGEROUS LEGISLATION

WE learn from Washington that the enemies of Medical Science, backed by the influence of a large number of misguided, respectable people, lately had Mr. McMillan's bill S. 1552 again called up for consideration, with nothing changed but the number, which now is S. 1063. It has been since referred to the Senate Committee on the District of Columbia, but as the committees of the Senate are not yet complete, it will not receive immediate attention. For over a year the antivivisectors have been at work upon the sympathies of the leading citizens of the District of Columbia seeking to gain the force of their influence upon the Senate for this fight. Bishops and clergymen, judges and lawyers, army officers and plain citizens have been persuaded in great numbers to sign petitions. So hard have the antivivisectors worked that it is really a pity they were not engaged in a better and more humane cause. From beginning to end their plan has been that of sensation-mongers appealing to the uncontrollable feelings of the public. They circulate heart-rending descriptions of supposed deeds of cruelty so worded that he would indeed have a callous heart who could not be moved thereby. Some are so tragic in their settings that we wonder they have not made weak women hysterical and given strong men an attack of nightmare. To say that they are all garbled might not be deemed literal truth, but none of them are, in any sense, fair to the experimentors referred to or quoted. In spirit they are wicked distortions of the intent of the physiologists. Many indeed are wholly false, being neither more nor less than mean and malicious attacks by unscrupulous enemies.

Should some foreigner, bitterly prejudiced against America and Americans, write from here to his countrymen in a way to do us the most possible harm on the least possible provocation, we can conceive of no more efficient method than that pursued by antivivisectors. He could keep his statements well within limits that could not be denied nor contradicted except by explanations that they would be in no humor to listen to. As an example we shall suppose that he is telling them that Americans are the most cruel and bloodthirsty people on the face of the earth—that they are in fact far worse than the worst savages, as they do deeds that would make savages shudder. In evidence of this, and taking his cue from the antivivisectors, he proceeds to describe his experience of a day or two in New York city. He had visited several large establishments there where he said he had seen men, women and children, the poor of the city, so horribly mangled and tortured that it froze the very blood in his veins to think of it. He saw little children taken crying and struggling against their captors and forced into quietness with some vile drug while their limbs were twisted in the most agonizing manner with steel torture racks. Others had their spinal columns torn from the shapes which God had given them while they were screwed and bound up to suit their tormentors. With horror unspeakable he had looked on and seen poor helpless human beings have their eyes gouged out, cut into with knives of steel or pierced with cruel needles. Others again had their bowels torn open, their bones sawed through, their fingers severed from their hands, their arms and legs severed from their bodies, their skulls sawed into, their kidneys cut out, their throats cut open and their flesh burned and seared with hot irons. Amid the sickening smell of burning human flesh, amid the horrid rasping sound proceeding from the saws eating their way through the bones of living human beings and in sight of the flow of streams of human gore stood groups of men and women looking complacently on as if they rather enjoyed the sight and exulted in the agony of the sufferers. Along with his description and to heighten the horror of the tale he sends pictures of cunningly devised saws, forceps, chisels, knives and other instruments that were used, labelling them "Tools of American Human Torturers." Nowhere does he tell that he has condensed many experiments into one description so as to convey the impression that each human being endured them all or a great part of them. Nowhere does he pretend to show why each particular act of torture was performed. Everywhere he tries to excite sympathy and pity for the sufferer with hatred and anger for the operator. Never does he try to do the operator the simple justice of showing just why he committed each complained-of act. He does, however, send word home to his people that what these men do they claim is done for the good of humanity. There is no attempt at coming down to particulars so that the reader might judge for himself whether or not there was any justification for them. His object in telling that they claimed that their deeds were for the good of humanity was not an honest one. He merely wanted to put on the appearance of fairness that he might be the better able to distort the truth without detection. Everything he wrote was in a sense true. It was, nevertheless, a horrible, unjustifiable, villainous slander. In New York City orthopedic surgeons, eye surgeons, and general surgical operators do every one of the things he has named almost every day. No one, however, thinks of attaching the slightest blame to them for such acts. On the contrary we praise them for the same, and where success rewards a daring act of the kind, we honor the operator above his fellows for it. If, however, the public knew as little about the motives of surgeons as they do about the motives of physiologists they could just as easily be persuaded into signing petitions to control or suppress surgery as they now are to sign such against physiology and bacteriology.

ANTIVIVISECTION TACTICS

THE advocates of the McMillan bill take great pains to tell the public that it is designed to supervise and restrict, not to prohibit vivisection. Their pamphlets by which they win converts, their journals by which they defend their cause and their daily utterances, all tell us that nothing short of absolute suppression will ever satisfy them. This bill is one of the most remarkable to be found in the whole history of legislation. Those who have framed it, those who have forced it, those who have spent their time and money in winning influence to make a law of it, openly avow that it is only what fishermen would call "a bait to catch gudgeons." They care nothing for it except as a means to an end. It is not such a bill as anyone except the dupes of these players upon human passion cares one straw about. Its promoters seek to make a tool of Congress to help advertise their cause in the United States at the expense of the taxpayers of the country. As a scheme it is very pretty, but the hard, common sense of the American people is bound to assert itself in the long run and make the advertisement a useless one. Had it been an honest bill for the prevention of cruelty to animals, and not one singling out vivisectors particularly, all those arrayed against it would have been for it. No man who is not a savage can for a moment commend or defend wanton cruelty. Certainly the members of the large number of national, State and local medical and scientific societies that opposed it are not in favor of cruelty. It is a remarkable fact, and one that antivivisectionists should ponder upon, that the bill did not have the support of a solitary medical or scientific body in this whole country. All the competent—all those able to make a just judgment on the matter, were arrayed solidly against it. Those who favored it were men who never in all their lives added to the sum of human knowledge by any discovery of scientific fact, and who therefore did not know anything about the conditions of such discovery. What had the vivisectors of the District of Columbia done to be singled out in such a manner? After a search of over a year their enemies have not produced even a rumor to justify their attitude. Antivivisection literature, which is used in the manufacture of sentiment on the subject, is decrepit with age. The same stock in trade as is in use to-day was bandied around nearly a quarter of a century ago. The same tales and the same pictures now found in the most recent pamphlets were published in 1874. The committee on the McMillan bill listened to these very stale arguments without the addition of a single new one. Every argument had already done service in the war in England, and was re-galvanized to suit the present occasion. If in the whole world no new cruelties have been perpetrated by vivisectors for so long a time, surely the antivivisectors' occupation should have been gone long ago.

One of the gentlemen who about a year ago appeared before the Senate Committee in defense of this bill is a physician. In 1880 he published practically the same argument in *Scribner's Monthly*. Has he been able to discover no new horror in sixteen years? It was evident from the way he was received that the antis considered him their star advocate, although he protests that he is not one of them. His papers on the subject of vivisection seldom fail to quote the stock horrors, and it is evident that he is a favorite among them, since they all, from Miss Cobbe down to the latest neophyte, quote his statements freely as sweet morsels. It would be a large job to wade through all the arguments presented before that committee, but we shall select one from the chief star in the galaxy of defenders of the law. His strongest evidence that vivisectors, and particularly American vivisectors, are wickedly cruel, was a quotation from a letter of Dr. Gerald Yeo, of King's College, London. Perhaps Dr. Leffingwell did not know that he was pursuing the usual antivivisectionist's tactics of telling what was not true because it was only part of a truth. In charity to him we shall assume that he did it ignorantly, though it is difficult for us to refrain from thinking that it was wilful because of facts we cannot now stop to explain. Dr. Yeo did write the words quoted from the *Fortnightly Review*, but very shortly afterward another letter from him was published in the *Contemporary Review* telling how he came to write such words. He had, like many others, believed that the quotations in the pamphlets of antivivisectors were truthful. On the strength of some of Miss Cobbe's quotations he wrote his *Fortnightly Review* letter quoted by Dr. Leffingwell. As soon as he had had time to look the matter up from proper sources he published his second letter, that declared the oft-told tales he referred to were those of Miss Cobbe and not those of the physiologists. He also denied having admitted that the physiologists abroad were cruel. In view of this fact Dr. L. should go back to Washington and tell the committee that his strongest argument before them was not true, as it was but a part of the truth. The whole literature of antivivisection is of a piece with this. If the McMillan bill has an honest defender who feels competent to stand up for it we should like to have such an one answer a few pertinent questions. Supposing such a law as this had been enforced in the days of Mayow, Black, and Priestley, where would modern chemistry, and consequently much of modern civilization, be? Supposing such restrictions should have been placed on electric investigators, how could we ever have had an Edison or a Bell? Have not the greatest and most important discoveries in the world been made by independent investigators, who would be ruled out by such a law? Does not the genius for certain types of investigation develop before the twenty-fifth year? To forbid the study of bacteriology and physiology before the study of medicine is to forbid the entrance into these studies at a proper age of the very men who could be successful therein. Is this not practically an attempt to kill physiology and bacteriology as independent branches of science? Why are the inspectors not to be paid for their work? Is this intended as a means of excluding from such positions all except the paid officers of the antivivisection society or zealous and fanatical members thereof? To place such men or women in such positions will be like placing a Bengal tiger fresh from the jungles to watch over a child. Will they not in their bigotry and ignorance continually hinder and annoy scientific workers? To execute such a law as its sponsors intended would be to kill, not supervise, vivisection.

This bill should by all means be killed. If fanaticism triumphs in the District of Columbia it will acquire momentum by which it may sweep the whole country. The fight should be deemed national, not local. Every medical man who prefers knowledge to ignorance and scientific medicine to empiricism should deem it of personal interest and help the right. It has been found by experience that Senators pay less attention to concerted action by societies than to letters from individuals. Why this is so we shall not now stop to determine. The fact, however, is as stated. As a result the antivivisectors are at present likely to receive most deferential consideration from the Senators, while the side of science must suffer to a corresponding degree. For some reason there are Senators that count a vote of the American Medical Association of less value than letters from two or three members of the same. They ignore all the resolutions of State, county and local societies. They want to have personal evidence of interest in the subject from their constituents. Senator Gallinger, who is using his utmost efforts to get the bill passed, is a graduate in medicine, of the Eclectic Medical Institute, of Cincinnati, O., and later of the New York Homeopathic Medical College. He evidently means to push it through if he possibly can. The antivivisectors all over the country are watching him with unfeigned satisfaction and doing all they can to aid him. Already they have secured a joint resolution from the Legislature of Michigan expressing "Earnest sympathy with, and hearty commendation of, the effort now being made by Senator James McMillan in the Congress of the United States, to regulate the practice of vivisection in the District of Columbia; that we regard this practice of torturing animals as cruel, inhuman and unworthy of our civilization." It is a pitiful sight to find Michigan represented by men who could be fooled into believing that supporting the very bulwarks of civilization and humanitarianism is "cruel, inhuman and unworthy of our civilization." Will our readers not take this to heart, at once, sit down and write short notes to their Senators at Washington, asking them to oppose Senate Bill 1063? If not done immediately it may be forgotten.

AMONG THE EDITORS

LENGTH OF COLLEGE COURSE

At the recent meeting of the State Society it was resolved that in view of the long course now required of students in medicine, the committee on legislation be directed to draft a bill to modify the present law and allow medical students, graduates of literary colleges, to be credited with the last year of study in such literary college. It was said that under the law, if not changed, one would not be ready to practice medicine before his thirtieth year; that the requirements and duration of studies exceeded those in Germany.

If such an amendment is made to the law it is not easy to see how a graduate of a literary college, in which medical elementary studies are not taught, can enter the second year of a medical course and continue his studies with students who have already had one course in medicine. It will certainly interfere very materially with the graded system of instruction. It might not be unwise for members of the State Society who are not teachers in undergraduate medical schools, before introducing such radical measures as this, to consult with those who have such connections, and who are in a position to know the effect.

We can hardly understand how this could have been done in this instance, the obstacles to the proposed legislation seeming to us insurmountable in the best interests of a sound medical education.—*Brooklyn Med. Jour.*

THE PROBLEM OF POPULATION

The "depopulation" of France, as it has been called, has brought out within the last two or three years a considerable amount of theorizing in the secular press, and this has to some extent invaded the current medical literature, which as a rule leaves economic questions alone. The subject of population, however, which is one of the most important social questions, has also its medical bearings, and can be treated more freely and fearlessly in some respects from a medical than from a purely economic standpoint. As regards France, the problem is a simple one; there is no question as to the fertility of the Gallic people, the evidence of the conditions in Canada is sufficient to prove their virility. In France the lowered birth-rate is without much doubt the natural result of the saving and thrifty tendencies of the mass of the French people.

It is more than probable that the methods by which the result is brought about directly are not all such as can receive medical approval. Of course there is no such state of affairs as prevails in some Oriental countries, where the courtesan is an honored member of society and infanticide is legitimized; but there must be a certain social demoralization that is more or less disastrous to society, altogether apart from the national enfeeblement in fighting material, if population is repressed by general practices of any kind that interfere with the order of nature. The present state of affairs in France, and it may be to some extent locally elsewhere, is certainly not a satisfactory one, and so far as it may be due to a moral dry-rot, and a spread of any kind or form of sexual vice, is most unsatisfactory.

The idea of marriage is, or should be, connected with that of the family, and where they are separated one of the greatest stimuli to progress is done away with, and when a nation or a people, as a whole, shirks the struggle for existence in this particular, when fatherhood or motherhood is not looked forward to as the most desirable result of sexual union, then that people may expect sooner or later to yield to some more virile race in the struggle for national prominence or national life. It is unfortunate for France that economic conditions have so apparently hastened or temporarily produced this symptom of decadent or senile civilization.—*Jour. of the Amer. Med. Assoc.*

IS LONGEVITY INCREASING?

The series of Life Tables published by the Registrar-General during the last fifty years clearly prove that the mean duration of life in England is steadily increasing and that this increase is an increasing rate of increase. During the thirty years, 1841-70, the English death-rate was practically stationary at 22 per 1000; in other words, preventive medicine was only able in that period to counteract the deleterious effect of the constantly increasing aggregation to towns. Under the stimulating sanitary influence of the Public Health Acts of 1872 and 1875 the national death-rate fell in 1871-80 to 21 per 1000, and further to 19 per 1000 in the decennium 1881-90. The effect of this marked decline in the English death-rate is clearly shown by the three principal Life Tables published by the Registrar-General. For instance, the mean duration of the life of males, according to Dr. Farr's Life Table, based upon the mortality statistics of the seventeen years 1838-54, was forty years; according to Dr. Ogle's Table, based upon the ten years 1871-80, it had increased to forty-one years; and by Dr. Tatham's Table, based upon the more recent decennium 1881-90, it had further increased to nearly forty-four years. Thus the mean duration of life among males has increased under the influence of preventive medicine by four years during the past fifty years. The increase of longevity among females has been still greater. Thus the mean duration of life of females, which was not quite forty-two years by Dr. Farr's Table, rose to nearly forty-five years by Dr. Ogle's Table and to forty-seven years by Dr. Tatham's Table, showing a total increase of five years in the same period.—*Brit. Med. Jour.*

THE PROPER SEASON FOR MEDICAL CONVENTIONS

A contemporary has anticipated us, in referring in more particular terms than we had contemplated, to the unseasonableness of a recent important medical conference. We may be pardoned for a personal allusion, since our experience has doubtless been a fair representation of what has occurred to many another. After having been appointed for a paper, and having made arrangements to take a leave of absence from practice for a few days, we were, almost at the last moment, compelled to abandon the plan on account of pressure of professional duties which would scarcely have arisen at any other time of year. Only a few months previously we managed to attend another meeting, but were compelled to go equipped with umbrella and overshoes on account of the natural inclemency of the weather, and to hurry home from a city where there was much of interest to detain a visitor.

Medical conferences of various scope are all-important attractions to the physician, and we wish to protest against the practice of holding them at times of the year when it is most difficult to leave practice and when the attendant pleasures of a trip from home are least in evidence.

Probably most physicians will agree that the worst inconvenience of a physician's life is the necessity of considering the possibility or the actual occurrence of professional calls at the sacrifice of the privilege of ordering one's own times of working. In these days one of the greatest pleasures of life, as well as one of the prime educational factors of the intelligent adult, consists in travel, in shaking off from one's feet the familiar dust, and in filling the lungs with the atmosphere of a strange place, in throwing off the responsibilities which pertain to one known to a large proportion of the people whom he meets.

But the physician is most unhappily situated, so far as possibilities of travel are concerned, since his leisure is balanced by lack of means and his financial independence by professional obligations. Thus, the average physician must enjoy most of the pleasures and benefits of travel in connection with self-improvement at meetings of medical societies. Travel, in connection with professional engagements, is almost exclusively to uninteresting suburbs or to other near-by places, and at such times that a speedy return is necessary.—*Med. and Surg. Rep.*

DOCTORS IN POLITICS

President Cleveland, in his address to the New York Academy of Medicine, said that doctors should engage in politics antiseptically, which reminds us that two of our medical exchanges have gone into political writing very largely lately. We have wondered as we have read their articles what their object is? If there is anything that a doctor ought to do, it seems to us, that one thing is to keep himself free from political discussions and entanglements. It don't pay. Doctors are sufficiently handicapped already. While he should have a hearty interest in political affairs, he should use caution in mingling politics with his business.—*Med. Examiner.*

CHRISTIAN SCIENCE HEALING

The chief objection to Christian science is that it is neither Christian nor science at all, but pure and unadulterated humbug. The idea that faith, ecstacy, enthusiasm or self-hypnotism can modify, control, or effect the physiologic processes or that the *vis medicatrix naturæ* could be so juggled with as to cure disease, destroy germs or other morbific agencies is too absurd to be entertained by a rational mind. Christian science so-called is a phase of psychiatric degeneration and is in form a type of egomania. It strives by a species of self-exaltation to effect therapeutic changes. It is an obsedent idea which gradually causes the possessor to degenerate into a form of mentism when he is fully convinced of the truth of the doctrines of faith cure. The symptoms of the disorder are *variously* manifested, and when first detected the victim should be isolated from contact with all factors destined to add to the disturbance and a rigid surveillance maintained. The prognosis of the cases will vary with the degree of severity or total loss of common sense. The worst forms are those cases when the patient yields to the besetting ideas and the whole field of consciousness becomes contracted and dominated by the central idea so that the voluntary intellectual activity of the brain is reduced to a minimum. The most hopeful class are those who early recognize the morbid character of their delusions and have sufficient mental control to throw them off. Physicians who come in contact with this class of disorders will find the foregoing suggestions of valuable aid in managing this class of afflictions. Small and repeated doses of common sense will eventually restore the mental equilibrium and the delusion will depart.—*Charlotte Med. Jour.*

THE HEALTH BOARD AND ITS OFFICIAL DIAGNOSIS

Physicians of this city are sorely puzzled to know just where they stand in relation to the Board of Health. The question has arisen during the past week, and in a most disagreeable manner for the physician, as to whose diagnosis of a private case of sickness is to stand—that of the physician who is treating the patient or that of the board whose examiners have made a bacteriological examination in connection with it. The instance in point relates to a child presenting the clinical appearances of diphtheria. A tube was inoculated and sent to the board, while at the same time antidiphtheritic remedies were employed. A report was received from the board leaving the matter in doubt and asking for a second culture. This was sent and the same course of treatment was pursued, but now, the child's condition growing more alarming, the physician administered antitoxin, fearing the consequences of delay. The child recovered and the physician ceased his attendance. Some time after this the parent went to the board to secure disinfection and permits for his children to return to school, when he was informed that there had been no diphtheria in his house, and that the doctor had made a mistake in diagnosis.

Upon the strength of this information the physician was told that he might consider himself no longer the family physician, and payment of the bill was refused on the ground that he had treated the child for a disease which it did not have.

It seems clear from the statements of the case as we have received them that the board physician overstepped his duties, and, in perhaps a thoughtless manner, did an injustice, not alone to one physician, but to the whole profession. His removal from office will not efface the injury, but may point an example for future conduct to his successors.—*Med. Rec.*

ANTIVIVISECTIONISTS AND PSYCHOLOGICAL RESEARCH

Nowadays when introspective and experimental psychologists are alert to discover new fields for exploration we would respectfully call their attention to the brilliant prospect offered by the antivivisectionist. When psychologists have exhausted the possibilities of inquiries into the religious instinct and the like, when they have wearied of reaction times and psychical measurements, they can be assured of our intelligent appreciation if they will attempt to analyze the impulses that prompt men and women, apparently of gentle breeding, to attack with pen and pencil, honest, earnest men, who devote their lives, their time, their energies, their moneys to the advancement of science that humanity may reap the reward.

That those who take it upon themselves to vilify the characters and the humane instincts of such men are abnormal and so belong properly to the psychiatrist may be urged by the psychologist as the motive of disinclination on his part for not assuming the task. Nevertheless we urge the latter to grapple with the rabid anti-vivisectionist and contribute to the enlightenment of the world, for their attitude surpasses understanding.

If the editors of one of our most esteemed and valued secular weeklies were so unfortunate, the one or the other to develop an intestinal intussusception which went on to destruction of a segment of the organ, and if the surgeon who has recently been pilloried in their periodical were summoned to attend him should say, "I am able to save your life by utilizing the knowledge that I have gained from performing intestinal anastomosis on the dog—or on fifty dogs; will you avail yourself of skill thus bought?" We wonder if he, standing close to the Ivory Gates, would consent to pass through for fear that the ghost of the dog, previously offered up on the altar of Science, might disturb his peace of mind for ever after?—*Southwestern Med. Rec.*

SUSPENSION VERSUS FIXATION FOR MALPOSITION OF THE UTERUS

There is no quarrel among the advocates of these two operations, either as to pathology or as to indications; it is on the subject of the operations themselves—whether or not one is of greater benefit than the other, or whether one is not of positive detriment while the other is completely beneficial—that a split has occurred in the ranks. For the advocates of *suspensio uteri* were formerly the apostles of fixation, and it is upon their extensive experience with the latter operation that they base their opposition to it and have brought forward the former operation to supplant it. They maintain and have fairly proved that fixation of the uterus when successful, i. e., when the organ remains permanently fixed against the abdominal wall, not only does not relieve the symptoms for which it is performed, but really aggravates them, while it is a constant menace to future pregnancy. . . . When fixation seems to have cured symptoms and does not interfere with pregnancy, it is because the attachment to the abdominal wall has stretched or torn loose, the organ having become thereby "suspended." Thus is presented to us the edifying spectacle of an operation which succeeds only when it fails!

Now let us consider the advocates of "suspension." Is their position much better? They have given up the former, not on account of their previous knowledge of anatomy and physiology, which should, at the outset, have sufficed to have condemned it, but because they are forced, by their experience, to acknowledge that the work they have been attributing to "the great advance in medical progress," has been merely a thoughtless interference with the laws of Nature.

What is the argument in favor of "suspension" as an operative cure for uterine prolapse? It is that, in order to cure the symptoms, the uterus must be allowed sufficient mobility to allow it to find its own level—the plane, in other words, which is peculiar to it, and at which alone its functions can properly be performed. What this plane is for any individual uterus, it is evident we do not know, but we may profitably ask ourselves, How is this plane preserved by the uterus in a state of health? We know that this can only be by the action upon this organ of the broad and the utero-sacral ligaments and of the pelvic fascia to which they are attached, and upon whose integrity their proper action must be ultimately dependent.

If the uterus be heavy from subinvolution, why not induce involution by the means which we ought to know, and thus reduce the organ to a size at which its ligaments can give it support? If the pelvic fascia is lacerated and no longer gives due support—if the loss of resiliency in the uterine ligaments is due to this cause, is not the restoration of the torn and overstretched pelvic fascia and the proper support of the pelvic vessels by plastic work (and curettage) indicated? If retroversion or prolapse be due to inflammatory shortening of the uterine ligaments or to old peritoneal adhesions, why not recognize these conditions as the causes of disease, treat them locally until cured—or stretch the old adhesions until the uterus is quite free and easily replaced by the fingers. After the uterus is replaced and has been supported for a time by a properly fitting pessary, the artificial support may be dispensed with and the uterus will remain in place, supported by its own ligaments in a state of health.

We rejoice at the advent of the suspension theory, because it is a long step in the direction of true pathology, and must sooner or later lead to a full appreciation and proper respect for the mechanical laws by which the functions of the pelvic organs are governed.—*Amer. Gyn. and Obstet. Jour.*

OHIO'S MIXED BOARD OF REGISTRATION AND EXAMINATION

Ohio has what is known as a mixed board of registration and examination. The advantage of such a constituted board cannot be calculated, for it is so excellent. First, the members at once agreed upon a course of action, which had for its purpose a freeing of the State of its quack element, and each school representative took it upon himself to give special attention to those who ostensibly sailed under its flag. Drs. Scudder and Williams have literally driven out a horde, the worst sort of so-called Eclectics, while Dr. Beebe has been merciless towards those who were educationally unqualified and presumed to practice as Homeopaths. However, the hardest of the fight has perhaps been placed upon the representatives of the regular school, and, although accused of being slow and conservative, which means the same thing, they have done well. The work of the board and its individual members does not and cannot all appear upon the surface, but it is done, and reasonably well done.—*Cincinnati Lancet-Clinic.*

SELECTED PAPER

THE MALARIAL PARASITE AND OTHER PATHOGENIC PROTOZOA*

By GEORGE M. STERNBERG, M. D., LL. D.,
Surgeon-General, United States Army

(From *Appletons' Popular Science Monthly*, by kind permission of the publishers)

GENTLEMEN: My Presidential address last year had for its subject The Practical Results of Bacteriological Researches, and at its conclusion I showed you upon the screen photomicrographs of the principal pathogenic bacteria, including the micrococcus of pneumonia; the micrococci concerned in the production of boils, abscesses, wound infection, puerperal fever, erysipelas, etc.; the bacilli of tuberculosis, of diphtheria, of typhoid fever, of glanders, of anthrax, of influenza, of tetanus, of leprosy; the spirillum of relapsing fever, the spirillum of Asiatic cholera, and various other pathogenic bacteria. These micro-organisms are now generally recognized as belonging to the vegetable kingdom, and as a specialist in this department of scientific investigation your president may perhaps be considered a botanist *in a small way*. But the Biological Society includes among its members many distinguished specialists in that branch of natural history which relates to the animal kingdom, and I think it is due to the zoölogists to show that the botanists have no monopoly of mischief-making micro-organisms. In speaking of the pathogenic protozoa I shall devote special attention to the hematozoon which is now recognized as the specific cause of the malarial fevers; and in consideration of the importance of this blood parasite from a sanitary point of view, as well as of the interest which attaches to it from a biological standpoint, I shall occupy a little time in giving you an account of its discovery and the grounds upon which it is accepted by well-informed pathologists as the specific infectious agent in the class of fevers referred to.

The malarial parasite was discovered in 1880 by Laveran, a surgeon in the French army, at that time stationed in Algeria, but now a professor in the military school at Val de Grâce.

In my work on Malaria and Malarial Diseases, published in 1884, I refer to Laveran's alleged discovery as follows:

"According to this observer, there are found in the blood of patients attacked with malarial fever pigmented parasitic elements which present themselves under three principal aspects. This parasite is said to be a kind of animalcule which exists at first in an encysted state. In the blood these organisms present themselves as motionless, cylindrical, curved bodies, which are pointed and transparent and have a pigment spot; also as spherical bodies, about the diameter of a red blood-corpuscle, showing active movements and containing in their interior numerous pigment granules. The movements of these bodies are due to the action of elongated filaments attached to their circumference—flagella. A third form in which these parasites present themselves in the blood is as motionless, spherical, or irregular-shaped bodies containing dark-red, rounded pigment grains. These bodies have no nucleus, and do not stain with carmine; they appear to be the ultimate stage of development of the above.

"The blood also contains free pigment granules, pigmented leucocytes, and vacuolated red corpuscles which contain pigment granules.

"These parasitic elements have only been found in the blood of persons sick with malarial fever, and they disappear when quinine is administered.

"They are of the same nature as the pigmented bodies which exist in great numbers in the vessels and organs of patients dead with pernicious fever, which have been described as melanotic leucocytes. Laveran, at the time his report was published, had found these bodies in 180 out of 192 persons examined in Algeria and in Tunis who were affected with various symptoms of malarial poisoning.

"The presence of the parasite described by Laveran in the blood of persons suffering from malarial diseases is confirmed by Richard, who has studied the subject at Philippeville, France, where malarial diseases abound. This author has invariably found the parasite of Laveran in the blood of malarial-fever patients, and has never seen it in the blood of persons suffering from other diseases. He finds that its special habitat in the blood is the red corpuscles, in which it develops and which it leaves when it has reached maturity. During the attack of fever, many blood globules are seen which possess a small, perfectly round spot. Otherwise they preserve their normal appearance; they are simply, so to speak, stung (*piqués*). Beside these globules are others in which the evolution of the microbe is more advanced. The clear spot is larger and is surrounded by fine black granules. The surrounding hemoglobin forms a ring which decreases as the parasite augments in volume. After a time only a narrow, colorless zone remains at the margin. This corresponds with the body No. 2 of Laveran, 'having about the dimensions of a red corpuscle and inclosing an elegant collarette of black granules.' This collarette is the microbe which has arrived at its perfect state, and which is provided with one or several slender prolongations, measuring twenty-five micromillimetres or more in length. Richard has several times seen the fully developed parasite emerge from its 'shell'—the remnant of the invaded red corpuscle—to which it may remain attached, and which can only be seen with great difficulty. Sometimes only the motile filaments penetrate the envelope in which the body of the parasite remains inclosed. In both cases the filament is seen to undergo active movements, and when its extremity is caught in the fibrinous reticulum the body itself oscillates. This movement may last for an hour. Usually, however, no movement is observed, and the corpuscles containing very small parasites never move. The infected corpuscles become disorganized, the pigmentary collarette is broken down, and a grayish mass inclosing some black granules remains. The pigment granules when set free are rapidly picked up by the leucocytes; the melaniferous leucocytes are therefore epiphenomena."

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* Presidential address, delivered before the Biological Society of Washington, December 5, 1896

Commenting upon the observations of Laveran and Richard, I say, in the work just referred to:

"We cannot doubt that a true account has been given of what the observers believe they have seen. But there is a wide field for doubt as to the deductions made from the various observations recorded; for in miscroscopical studies of the blood made with high powers there is a great liability to error and to misinterpretation of what is seen. We may question, for example, whether the belief of Laveran and Richard that the appearances noted by them are due to parasitic invasion of the blood-corpuscles is well founded, without calling in question the accuracy of their observations."

At the time this was written pathologists *generally* were not disposed to attach much importance to the alleged discovery of Laveran, and this was especially true in Germany and in those countries in which physicians were in the habit of awaiting the verdict of German bacteriologists before accepting a new "disease germ." One reason for this failure to give proper consideration to the discovery of Laveran was the fact that there was a rival in the field. A year before the publication of Laveran's paper, giving an account of his observations, the distinguished German pathologist Klebs, in association with the prominent Italian physician Tommasi-Crudeli, had announced the discovery of a bacillus which they believed to be the cause of the malarial fevers, and which they named *Bacillus malariae*. Their experimental investigation was made in Rome with material obtained from the malarious marshes in the vicinity of that city.

The evidence offered in the original memoir of Klebs and Tommasi-Crudeli in favor of the view that the bacillus described by them is the cause of malarial fevers in man, is derived from experiments made upon rabbits, in which culture fluids containing the bacillus in question, and washings from malarious soils, were injected subcutaneously.

In my work on Malaria and Malarial Diseases, already referred to (published in 1884), I say:

"The importance of this alleged discovery induced the National Board of Health, soon after the publication of the first report published by Klebs and Tommasi-Crudeli, to undertake control experiments in a recognized malarial locality in this country. The writer, who had established a laboratory in New Orleans for the purpose of studying the micro-organisms present in the atmosphere of that city, was therefore instructed to repeat the experiments of Klebs and Tommasi-Crudeli, and during the autumn of 1880 devoted a considerable portion of his time to this investigation. The results obtained were not favorable to the view that the fever produced in rabbits by the injection beneath their skin of infusions of swamp mud, etc., was a truly malarial fever; and, for reasons stated, the conclusion was reached that the evidence offered by Klebs and Tommasi-Crudeli in their first report, which alone had been published at this time, was unsatisfactory. (The full report of these investigations is given in Supplement No. 14, National Board of Health Bulletin, published in Washington, D. C., 1881.)"

Referring to subsequent observations, I remark:

"Since the publication of the report above referred to the belief that the *Bacillus malariae* is the true cause of malarial fevers has received considerable support from observations made in Rome, under the direction of Tommasi-Crudeli, by Marchiafava, Cuboni, Peroncito, Ceri, and others.

"We do not feel prepared to estimate the value of this evidence in detail, but will, in a general way, give our reasons for considering it in a spirit of scientific skepticism, and for demanding substantial confirmation from other parts of the world where malarial fevers prevail, and especially in our own country, where malaria is so well known by its effects, and where the *Bacillus malariae* should be easily found if it is constantly present in the blood during the cold stage of intermittents, as has been claimed by some of the Roman observers. . . .

"The writer's observations lead him to be very cautious in accepting evidence relating to the discovery of organisms in the blood, when these are few in number and require diligent search for their demonstration: for the possibilities of accidental contamination or of mistake in observation are very great. . . .

"The writer has many times examined carefully the blood of malarial-fever patients with a one-eighteenth-inch oil-immersion objective (of Zeiss), and has not been successful in finding either rods or spores. But few of these examinations have, however, been made during the chill, and the blood has not been drawn directly from the spleen: these observations are therefore to be considered as incomplete, and, if opportunity offers, will be supplemented by more extended microscopical researches."

Notwithstanding this adverse criticism, based upon an experimental research made for the purpose of confirming the alleged discovery, if it should prove to have a scientific foundation, the *Bacillus malariae* was pretty generally regarded by physicians in this country and in England as being the veritable cause of malarial fevers, and for several years it was frequently mentioned in medical journals and even in standard text-books of medicine as one of the demonstrated disease germs. But truth is mighty, and in the end must prevail. To-day no one speaks of the *Bacillus malariae* of Klebs and Tommasi-Crudeli except to refer to it as one of the pseudo-discoveries, which for a time passed current, like a counterfeit coin, but which was detected and thrown aside when subjected to approved scientific tests.

The first confirmation in this country of Laveran's discovery of ameboid parasites in the blood of malarial-fever cases was made by the present writer in the pathological laboratory of the Johns Hopkins Hospital in March, 1886. In May, 1885, I had visited Rome as a delegate to the International Sanitary Conference convened in that city under the auspices of the Italian Government, and while there I visited the Santo Spirito Hospital for the purpose of witnessing a demonstration, by Drs. Marchiafava and Celli, of that city, of the presence of the *Plasmodium malariae* in the blood of persons suffering from intermittent fever. Blood was drawn from the finger during the febrile attack and from individuals to whom quinine had not been administered. The demonstration was entirely satisfactory, and no doubt was left in my mind that I saw living parasitic micro-organisms in the interior of red blood-corpuscles obtained from the circulation of malarial-fever patients. The motions were quite slow, and were manifested by a gradual change of outline rather than by visible movement. After a period of ameboid activity of greater or less duration, the body again assumed an oval or spherical form and remained quiescent for a time. While in this form it was easily recognized, as the spherical shape caused the light passing through it to be refracted and gave the impression of a body having a dark contour and a central vacuole; but when it was flattened out and undergoing the ameboid changes in form, it was necessary to focus very carefully and to have a good illumination in order to see it. The objective used was a Zeiss' one-twelfth-inch homogeneous oil immersion.

The changes in form which a single plasmodium, included in a red blood-corpuscle, was observed by Marchiafava and Celli to undergo within a period of twenty minutes I shall show you upon the screen at the close of my address (see Fig. 1).

The confirmation of Laveran's discovery, as already stated, was first made by Richard in a communication to the French Academy of Sciences (February 20, 1882), then by Marchiafava and Celli (1883), and subsequently by Councilman and by Osler in this country, by Golgi in Italy, by Manson of England, and by many other competent microscopists in nearly all parts of the world where malarial diseases prevail.

The intracorpuscular development of the plasmodium has been traced by Golgi and others, and results in the formation of a number of bodies arranged in the form of a rosette, with a mass of pigment granules at the center (see Fig. 2). The growth of the plasmodium seems to be at the expense of the hemoglobin of the infected red blood-corpuscle, and the pigment granules are probably to be regarded as an excrementitious product. The segments of the rosette, which represents the final stage of intracorpuscular development, are finally set free by a breaking-down of the remains of the corpuscle, and are supposed to correspond with the elementary body which invaded the corpuscle in the first instance. The periodicity of this class of fevers is believed to depend upon the fact that a certain time is required for the intra-corpuscular development of the plasmodium, and that successive crops of these elementary bodies are set free at regular intervals. We have also in the blood of malarial-fever patients certain pigmented bodies which are believed to represent different stages in the development of the same parasite, or of a nearly related parasite, which is concerned in the etiology of a different type of malarial fever. The form most frequently encountered is associated with the so-called "estivo-autumnal" malarial fevers which prevail in the vicinity of Rome and elsewhere. The bodies characteristic of this type of fever are crescentic in form and contain black pigment granules, usually centrally located (see Fig. 3). These crescentic bodies are not usually found in the blood of persons suffering from intermittent fever of the tertian or quartan type. Golgi, who has made very extended studies of the blood of malarial patients, asserts that each intermittent paroxysm is associated with the segmentation of a group of intracorpuscular organisms—that is to say, that the paroxysm corresponds with the ripening of a generation of the parasites. He also concludes from his observations that the number of parasites shown to be present by a microscopical examination of the blood corresponds, in a general way, with the severity of the attack. These observations have been confirmed by Osler, Antolisei, and others. Golgi has noted differences between the plasmodium as found in the tertian type of intermittent and that found in quartan fevers; and these differences are sufficiently marked to enable him to determine the type of fever by a blood examination. These observations have been confirmed by numerous competent pathologists in various parts of the world. When a daily paroxysm occurs, according to

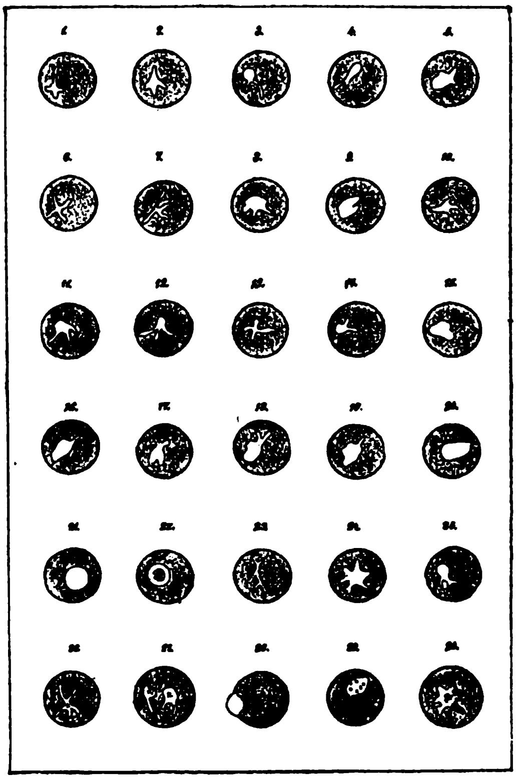

FIG. 1.—Figures 1 to 22 represent the changes in form which a single plasmodium, included in a red blood-corpuscle, was observed to undergo within a period of twenty minutes. Figures 23 to 27, 29 and 30 show other forms assumed by plasmodia, some with and some without pigment. Figure 28 shows a motionless plasmodium emerging from a red blood-corpuscle; the blood was taken after the paroxysm of fever and administration of quinine. (Marchiafava and Celli.)

Golgi, this is due to the alternate development of two groups of tertian parasites. He has not been able to demonstrate a special parasite of quotidian fevers having a cycle of intracorpuscular development lasting twenty-four hours.

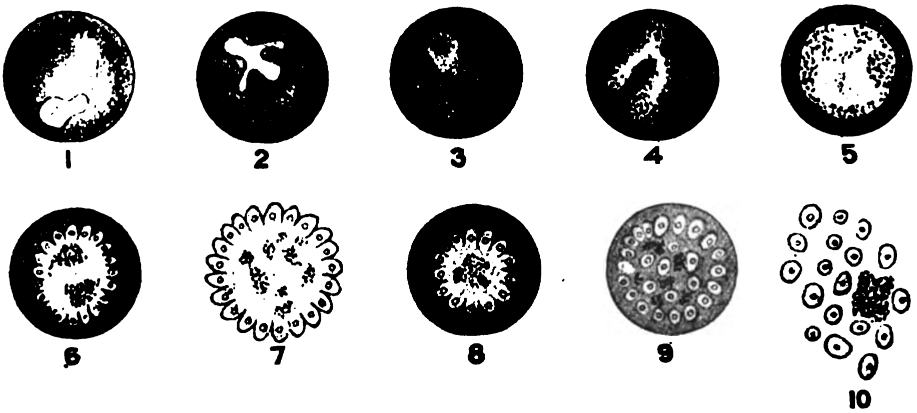

FIG. 2.—Intracorpuscular Development of the Parasite of Tertian Intermittent Fever: 1, 2, young hyaline forms; 3, 4, more advanced pigmented forms; 5, fully grown parasite; 6, 7, 8, 9, segmentation and production of free spores (10).

The differences between the evolution of the tertian and quartan parasite are summarized as follows by Laveran, from the data given by Golgi:

The tertian parasite completes its evolution in two days, the quartan in three days.

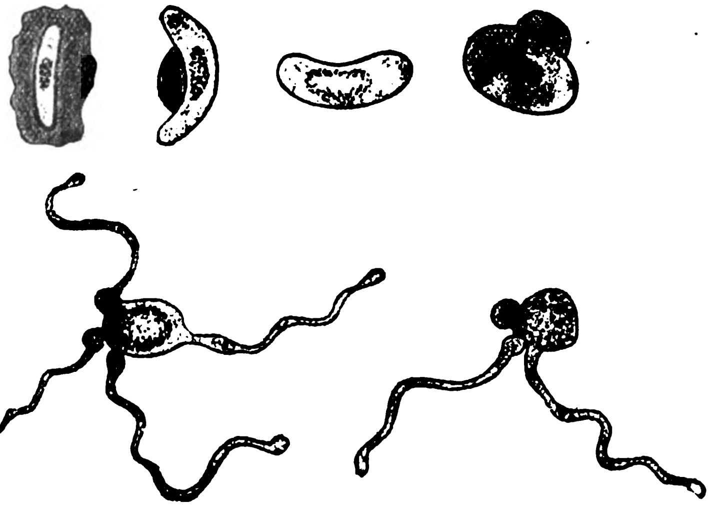

FIG. 3.—Crescentic and Flagellate Forms Characteristic of "Estivo-Autumnal" Malarial Fevers.

The ameboid movements of the tertian parasite are much more active than those of the quartan.

The tertian parasites cause a rapid decoloration of the red blood-corpuscles invaded by them, while the corpuscles retain their characteristic color when invaded by the quartan parasite up to the time that they are almost destroyed as a result of its intracorpuscular development.

In the quartan type the red blood-corpuscles containing the parasite have a tendency to become smaller than normal corpuscles; in the tertian type they are usually larger.

In the tertian the protoplasm of the parasites is very transparent; in the quartan it is less so, and the outlines are better defined.

In the quartan the pigment is seen in the form of grains or rods of greater size than in the tertian.

Finally, the principal difference is found in the segmentation of the intracorpuscular elements. The number of spores resulting from segmentation is greater in the tertian parasite—usually more than twice as many.

That these parasitic protozoa are in truth the cause of the forms of malarial fever with which they are found to be associated can scarcely be doubted, in view of the facts that this association is a constant phenomenon, that the infected blood-corpuscles are destroyed by the parasite, that a rapid loss of red corpuscles is one of the most marked results of malarial infection, and that the parasites disappear when quinine is administered in suitable doses, thus accounting for the specific action of this drug. Finally, it has been shown by inoculation experiments that when blood containing the plasmodium is drawn from the circulation of a malarial-fever patient and injected beneath the skin of a healthy person, there is a reproduction of the parasite in the blood of the inoculated individual, and, after a certain period of incubation, typical malarial paroxysms occur. Successful inoculation experiments have been made by Marchiafava and Celli, by Gualdi and Antolisei, by Bein, by Barcelli, by Di Mattei, and others.

The life-history of the malarial parasite outside of the bodies of infected individuals has not been traced. Thus far, attempts to cultivate it in artificial media have failed. Nor has the presence of the plasmodium been demonstrated in water or mud taken from the marshy localities which are recognized as the source of malarial fevers, and which we therefore believe to be the normal habitat of this mischievous micro-organism. The facts relating to the seasonal and regional occurrence of malarial fevers sustain the view that they are caused by living organisms, the external development of which depends upon conditions relating to temperature, moisture, vegetable growth and decay. But among the vast number of micro-organisms of an infinite variety of species found in localities which are recognized as malarious, the little specks of protoplasm which—with a first-class oil-immersion objective, and by careful manipulation of light—we recognize as parasitic invaders of human blood-corpuscles could scarcely be detected, and could not be differentiated from other sporelike bodies in the absence of methods for obtaining each species separately, in pure cultures.

Thayer and Hewetson, in their admirable monograph on the Malarial Fevers of Baltimore (1895), in which they give an account of 616 cases observed by themselves, have summarized their observations relating to the parasite as follows:

"We have distinguished three varieties of the malarial parasite:

"1. The tertian parasite.

"2. The quartan parasite.

"3. The estivo-autumnal parasite.

"(1) The tertian parasite requires about forty-eight hours to accomplish its complete development, and is associated with relatively regular tertian paroxysms, lasting on an average between ten and twelve hours, associated, almost always, with the three classical stages—chill, fever, and sweating. Frequently, infection with two groups of tertian organisms gives rise to quotidian paroxysms; rarely, infection by multiple groups of organisms gives rise to more irregular, subcontinuous fevers.

"(2) The quartan parasite is an organism requiring about seventy-two hours for its complete development. It is rare in this climate, and is associated with fever showing regular quartan paroxysms; similar in nature to those associated with the tertian organism. Infection by two groups of the parasite causes a double quartan fever (paroxysms on two days, intermission on the third). Infection with three groups of the parasite is associated with daily paroxysms.

"(3) The estivo-autumnal parasite passes through a cycle of development, the exact length of which has not as yet been determined; it probably varies greatly, from twenty-four hours or under to forty-eight hours or more. But few stages of development of the parasite are found, ordinarily, in the peripheral circulation, the main seat of infection being, apparently, in the spleen, bone marrow, and other internal organs. Infection with this organism is associated with fevers varying greatly in their manifestations. There may be quotidian or tertian intermittent fever, or, more commonly, more or less continuous fever with irregular remissions. The individual paroxysms last, on an average, about twenty hours. The irregularities in temperature depend, probably, upon variations in the length of the cycle of development of the parasite, or upon infection with multiple groups of organisms.

"We have not been able to separate two distinct varieties of the æstivo-autumnal parasite, though we feel that more investigation is needed upon the subject.

"The cases of malaria in the spring and early summer are of the milder, more regularly intermittent varieties (tertian and quartan fever), the severe estivo-autumnal infections beginning to appear only in the later summer, and reaching their maximum in September."

Manson has recently suggested that the mosquito is an intermediate host for the malarial plasmodium. We have an analogy for this in the part played by the mosquito in withdrawing embryo filariæ (*Filaria sanguinis hominis*) from the blood of infected individuals and returning them to the stagnant pools frequented by the insect. Manson says, in discussing this hypothesis in his Gulstonian Lectures (1896):

"We can readily understand how the mosquito-bred plasmodium may be swallowed by a man in water, as so many disease germs are, and we can readily understand how it may be inhaled in dust. Mosquito-haunted pools dry up. The plasmodia in the larvæ and those that have been scattered about in the water, finding themselves stranded by the drought, and so placed in a condition unfavorable for development, pass into a resting stage, just as they do when by quinine or other means man is rendered temporarily unsuited for their active life. They may, probably do, become encysted, as so many of the protozoa do in similar circumstances. The dried sediment of the pool, blown about by winds and currents of air, is inhaled by man, and so the plasmodium may find its way back again to the host from whom its ancestors had, perhaps, started generations back."

This theory appears plausible, but we find it difficult to believe that man is essential for the completion of the life cycle of the plasmodium, for the most concentrated and deadly malarial emanations may be given off from marshy places which are far removed from the haunts of men. It may be, however, that the mosquito is an essential factor in the development of the plasmodium, and that man, instead of being a necessary intermediate host, only serves occasionally, and in a certain sense accidentally, as such. Perhaps other mammals or birds may serve the same purpose. It has frequently occurred to the writer that the malarial plasmodium, like other ameboid protozoa, may find its normal habitat, external to the bodies of its insect or animal hosts, upon the stems and leaves of water plants, rather than in the water itself. The fact that malarial fevers do not prevail in the vicinity of swamps when the marsh vegetation is submerged by high water is in favor of this view; as is also its apparent need of plenty of oxygen, which we infer from its active multiplication in the blood and its parasitic invasion of the red blood-corpuscles.

Possibly the mosquito is an intermediate host for the *Plasmodium malariae* on a larger scale than Manson suggests. The natural food of this insect is the juices of plants, and, no doubt, a vast majority of them never have a chance to fill themselves with the rich red fluid from their human victims which they are so eager to substitute for their normal diet when opportunity offers. If, as we have suggested, the plasmodium abounds upon the stems and foliage of herbaceous plants in marshy localities, the mosquito would be very likely to pick it up in following its everyday method of gaining a livelihood.

Parasitic protozoa, closely resembling the malarial parasite, have been found in the blood of birds and of reptiles, and possibly one or more species of lower animals may serve as an "intermediate host" for the hematozoon under consideration. Laveran has given a drawing, in his work on Paludism, of a parasite found in the blood of the lark, which is evidently of the same family. The fact that a parasite may develop in the blood, or elsewhere, in one or more species of animals without giving rise to any evident symptoms of disease cannot be taken as evidence that it is not pathogenic for man, or for some other animal. On the contrary, we have numerous instances which show that animals may have a natural or acquired immunity to the pathogenic action of parasitic micro-organisms which are deadly for other animals of the same or different species.

Texas fever, an infectious disease of cattle which prevails as an endemic disease in certain regions in the southern portion of the United States, has been shown, by the researches of Theobald Smith and other bacteriologists belonging to the Agricultural Department, to be due to a blood parasite belonging to the protozoa (*Pyrosoma bigeminum* of Smith). In this disease the tick has been shown to be the intermediate host of the parasite. The ticks which fall from infected animals give birth to a numerous progeny in the pastures frequented by them, and these young ticks attach themselves to other animals which subsequently feed in the same pastures and transmit to them the fatal infection.

The tsetse-fly disease of Africa has recently been shown by the researches of Bruce to be due to a flagellate infusorium which is found in the blood of infected animals. This disease is fatal to the ox, the horse, the dog, the sheep, and the ass, but not to the indigenous wild animals in the region infested by the tsetse fly. The researches of Bruce indicate that the fly acts as a carrier of the parasite from diseased to healthy animals. He has shown by experiment that after feeding on the blood of an infected animal the tsetse fly can communicate the disease to a healthy animal by its bite. After a short period of incubation the hematozoa appear in the blood concurrently with the development of fever, and followed by rapidly progressive anemia, dropsy, and death.

The so-called "surra disease," which prevails in certain portions of India, is believed to be due to a similar parasitic protozoan (*Trypanosma evansi*). According to Lingard, this infusorium exists as an innocuous parasite in the blood of rats in India. It is not pathogenic, or only feebly so, for the native ox of India, but gives rise to a fatal infectious disease in horses, dogs, and camels.

Another pathogenic micro-organism belonging to the protozoa is the *Ameba coli*, which is found in great numbers in the large intestine in cases of tropical dysentery and also in liver abscess secondary to this disease.

The rapid progress of our knowledge of the bacteria has been due to the fact that satisfactory methods (staining) have been devised for detecting these minute micro-organisms in the blood and tissues of infected individuals and for cultivating them in artificial media. Unfortunately, these methods have only a limited utility when applied to investigations relating to the protozoa. The bacterial cell has considerable stability, owing to its cellulose envelope (cell wall), and is readily stained by the aniline dyes. The protozoa, on the contrary, very readily undergo disintegration, and the more fluid protoplasm of these unicellular organisms is not so easy to demonstrate by the usual staining reagents. It has also been found very difficult, and in many cases quite impossible, to obtain pure cultures in artificial media. Again, the recognition of protozoa in the blood of infected animals by means of the microscope requires special skill in making preparations, in the management of the light, etc., and expert knowledge of the normal elements of the blood and of the changes they undergo as a result of the various methods of preparation. This is illustrated by the fact that many persons, more or less familiar with the use of the microscope, have failed to discover the malarial parasite in blood which undoubtedly contained it, while others have evidently mistaken vacuoles in normal blood-corpuscles for the plasmodium, the crenated red corpuscles for pigmented cells, and deformed corpuscles for malarial crescents.

Notwithstanding the painstaking researches which have been made during the past few years for the purpose of determining the nature of certain bodies which may be demonstrated by special staining methods in the cells of carcinomatous tumors, we are still uncertain as to the nature and etiological import of these bodies. Some investigators believe them to be protozoa, and from their location infer that they are the specific etiological agents in the development of malignant growths of this character. But, so far as we are informed, this view has not as yet received any very substantial support, and has not been accepted by the leading pathologists of the world.

The presence of ameboid micro-organisms in the contents of the pustules of variola and in vaccine lymph has been reported by several investigators: Guarnieri (1892), Monti (1894), Piana and Galli-Valerio (1894), L. Pfeiffer (1894), Clarke (1895), von Sicherer (1895), E. Pfeiffer (1895). Guarnieri in 1892 published a paper in which he claimed to have cultivated the ameboid micro-organism found by him in the vaccine lymph by successive inoculations in the cornea of rabbits. E. Pfeiffer has since (1895) confirmed this observation, and has seen the parasite undergoing ameboid movements and in progress of multiplication by spontaneous fission. During the past two years investigations relating to the etiology of vaccinia and variola have been made at the Army Medical Museum in Washington, by Major Walter Reed, surgeon United States Army. These investigations show that in vaccinated monkeys and in children an ameboid parasite makes its appearance in the blood on the sixth or seventh day after vaccination, and may be found during a period of from five to seven days, when it disappears. Reed has found the same parasite in the blood of patients with variola and in his own blood after an accidental vaccination in the finger. The parasites are not numerous. They are less than a third the diameter of a red blood-corpuscle, and may be observed to undergo ameboid movements in a drop of blood, properly mounted for microscopical examination, during a period of twenty-four hours or more. These ameboid bodies, like the malarial parasite, would be easily overlooked by one not an expert in blood examinations.

The presence of a ciliated ameboid micro-organism in the mucous secretion coughed up by children suffering from whooping-cough has recently been reported by Deichler and confirmed by Kourlow. This may prove to be the cause of the disease, but further researches will, of course, have to be made before this can be determined. In view of the extended investigations made during the past few years by competent bacteriologists, it seems probable that in most of those infectious diseases in which the specific infectious agent has not yet been discovered it belongs to some other class of micro-organisms than the bacteria; and it seems not improbable that some of them at least will prove to be due to infection by "germs" belonging to the class to which your attention has been invited in the present address—viz., the pathogenic protozoa.

Surgical Interference in Peritonitis of Typhoid Fever

M. Dieulafoy, in the *Bul. d. l'Acad. d. Méd.* (1896, T. XXXVI, No. 42, pp. 475-496), after remarking upon the successful results now obtained by surgical intervention in peritonitis of all forms, dwells especially upon the results secured in the peritonitis of typhoid fever. He says, here, more than elsewhere, surgery has everything to gain in surrounding itself with medical counsels. It is to the physician that falls the sometimes difficult part of imposing the indications and the contraindications for an operation, to seize the opportune moment, and to supply at the proper time the hand of the surgeon. After mentioning the forms of typhoidal peritonitis usually described, viz., by perforation and by propagation, and trying to prove that the one by perforation is the only form that really exists, he treats the causation, pathology, signs, and symptoms of this complication, with the pros and cons of operative procedures, and then draws the following conclusions as to the indications for surgical interference:

1. In cases of typhoidal appendicitis and of appendicular typhoidal peritonitis, operative procedures may be employed, if the patient is in good condition; it gives the best results, provided the interference be made in proper time.
2. In case of typhoidal peritonitis from perforation, an operation gives the patient some chance of recovery. The difficulty is in seizing the opportune moment for intervention.
3. In spite of the intestinal ulcerations, suturing the intestine brings about cicatrization of the perforation; thus, surgical interference has a practical object in view.

Ichthyol

Dr. M. Günsburg, according to the *Bull. gén. de Thérap.* (1896, LXV, p. 624), has used ichthyol in over fifty cases of divers inflammatory affections of the genital organs in women, accompanied by constipation and dyspepsia, and finds that, given in pills, each containing 0.1 gme., one or two being given three times daily, it acts as a mild laxative.

Constipation is relieved under the influence of ichthyol without any accompanying colics or consequent diarrheas; at the same time, it is observed, in almost every case, that the appetite was improved, and that the pains in the lower abdomen ceased. The only inconvenience had with ichthyol, is the disagreeable belching following its use, but this may be prevented by having the pills coated with keratin. Another point in favor of this remedy is its cheapness.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Joseph P. Winston, M.D., George E. West, M.D., W. J. Robinson, M.D.

Treatment of Diphtheria with Antitoxin

Dr. Hammer, in *Deut. med. Woch.* (No. 51), discusses this subject from an examination of cases in Vierordt's clinic, and sums up as follows:

1. Antitoxin has in no case caused serious harm to the human organism.
2. Since its introduction, the mortality has been lowered.

In this clinic, in about one year's time, 109 cases have been treated, and three additional cases outside of the children's clinic.

Injection was made immediately after diagnosis. Place: front of upper part of thigh. This place is less painful and limbs are able to be held, although the abdomen is the next best place. Other doctors recommend still other places.

Before injection, antiseptic technique was carried out, the skin disinfected with alcohol and ½-per-cent. solution of carbolic acid, and the syringe boiled.

The writer proceeds to an analysis of the 112 cases in proving his statements above: Eighty-seven showed Klebs-Loeffler bacillus; in one case the bacillus was not found until after autopsy, although daily examinations were had. Seventeen cases were fatal; rate 15 per cent. Positive proof of diagnosis by bacterial and anatomical examination was had in 90 cases; of these, 36 were severe, 27 moderate, 27 light; and of these, 16 were fatal; rate 17$\frac{6}{10}$ per cent.

The author gives a statement showing the rate for previous years without antitoxin, with mortality rates from 67 per cent. to 41 per cent. for six years past. Cases where tracheotomy were resorted to were severe from the start; 27 cases—13 fatal, and seen late. Thirty-six cases had free larynx—1 of these fatal four hours after injection, and the antitoxin had not much chance to work. An exhaustive review of cases, and various degrees of severity, follows; all of which proves a lower mortality rate, after all possible allowances are made.

Regarding the action of the antitoxin, the writer says its influence is according to the individual organism. A day after the injection, it is frequently noted that an extraordinary impression is made upon the general health. Often was this noted in severe cases, and where there was extension to throat or pharynx. No case, out of 90, became septic. Many septic cases became favorable under antitoxin. There was a fall of temperature, occurring either immediately, or little by little, daily. Heart-weakness was not found in any case. Tracheotomy cases benefited. Where the whole larynx was free, no extension occurred. In light cases there was distinct demarkation in a day, and membrane began to dislodge—a process usually taking four to eight days. Behring's No. 2, 1,000 units, was generally used, and in one injection. In severe cases it may be repeated as required. No bad effects were noted where so used. Indications for repetition are: Rise of temperature, or continuously high temperature; the extension of membrane to trachea and bronchi. Infection of tracheotomy wounds, with rise of temperature, indicates second injection.

The writer cites histories of specific cases, with their various symptoms, and says that an exanthem will extend over the whole body—in some cases like a scarlatinal rash; in one case as an exudative multiform erythema; in others as an exanthem near the point of injection, like an urticaria.

In reviewing the symptomatology and sequelæ, the writer states that, while under serum treatment, the primary process is gotten rid of, the later appearances are not so surely prevented. Paralysis is claimed by some to occur more often under serum therapy. This is not strange, considering how many more people are kept alive. Bacterial examinations of cultures show that real diphtheria may result from an apparently harmless throat affection. Reasons for the presence, or absence, of the bacillus, e. g., from corrosive sublimate treatment, use of improper material for cultures, etc.

Mixed Anesthesia

Drs. Langlois and Maurange (*Bull. d. l'Acad. d. méd. Sci.*) think, after observing a series of 350 cases, during four years, that the heart-beat can be strengthened and made regular by hypodermic injections of morphine and sparteine, in connection with anesthesia; that this preliminary injection makes anesthesia rapid and easily maintained with a minimum of chloroform for the space of an hour, during which the pulse does not cease to be full and regular; when the anesthesia was continued two hours or more, the respiration became enfeebled, though the heart continued to beat with strength.

They think the serious question of security in anesthesia would be solved by associating with chloroform or ether an agent capable of regulating and strengthening the heart during narcosis.

Discovery of the Microbe of Ozena

Dr. Loewenberg, who has studied this disease since 1884, appears to have discovered its pathogenic microbe—the cocco-bacillus—which resembles the pneumo-bacillus, but which, carefully studied and cultivated by the author at the laboratory of M. Metschnikoff at the Pasteur Institute, appears indubitably to be entirely peculiar to ozena, for it has never been seen except in this affection.

They have not been able to reproduce the disease in experiments on animals, but they have proved that the introduction of the cocco-bacillus into the blood of a rabbit was not long in causing death, unless the rabbit was (previously) vaccinated by attenuated culture of the same bacillus.

M. Loewenberg's experiments are very exact and leave no doubt, even for a moment; but the question of treatment does not seem to have been modified by this interesting discovery, for, according to the author, antiseptic injections are the only things to be used, which every one has employed for a long time in the treatment of this disease.

Bone Marrow in Anemia

Dr. William O. Mann reports the results of the use of bone marrow in the anemic insane at Fergus Falls State Hospital, Minn., in the *American Journal of Insanity* (Vol. LIII, No. 3).

Twenty-two male cases, of which fifteen were chronic, were selected for trial with the following results:

The average increase in red corpuscles was 1,361,489, those taking the extract made at the hospital gaining more than the others.

The percentage of hemoglobin increased on an average of 12.5 per cent. The leucocytes, which in nearly all were abnormal at first, decreased in number at the end of the month. The whole general appearance in the majority of the cases improved. Appetite was better, and the action of the bowels more regular.

In only one case was there a tendency to diarrhea. In the twenty-two cases there was an aggregate gain of 47 pounds, and on discontinuing the marrow, those that lost immediately began to gain, and at the present time, three months later, weigh more than they have since their residence in the hospital. One case, which for months weighed from 96 to 99 pounds, now weighs 128.

Mentally, one case improved at once and went home recovered. Three were regarded as much improved, and four others were brighter and had lost a great deal of the apathy they formerly had. In the remaining fourteen, the only improvement noticed was in their physical condition.

The cases of acute melancholia and acute mania naturally showed the greatest improvement, and a beneficial action was noted in several cases of chronic melancholia, and in one case of senile dementia. One case of alcoholic insanity also improved.

Dr. Mann concludes that in cases of insanity, associated with anemia, improvement in the mental condition may be expected in at least one-third.

Respiratory Chemistry in Typhoid Fever and Under the Influence of the Cold Baths, With Therapeutical Applications

M. Albert Robin, in the *Bul. d. l'Acad. d. Méd.* (1896, T, XXXVI, No. 42, pp. 496-507), describes researches covering more than 100 cases, and includes over 1000 analyses. The quantity of oxygen absorbed by the tissues seems to the author of very great importance, especially in the part it plays in infectious diseases, as typhoid fever.

The respiratory interchanges in typhoid patients are sensibly reduced, and this reduction is greater as the malady is more serious.

In a case of typhoid, of moderate severity, the amount of oxygen actually *absorbed by the tissues* increases sensibly; the respiratory quotient varies little. The percentage proportions of oxygen consumed, and of CO_2 produced, are somewhat below normal. In convalescence, the percentage proportions of CO_2 and oxygen, as well as the quotient, rise again, whereas the oxygen *absorbed* is lowered. In a more serious case, but one followed by recovery, the above-mentioned changes in respiration are still more conspicuous.

Occasionally, in a case followed by recovery, the oxygen absorbed by the tissues was twice the amount absorbed in health; whereas in a fatal case, when the organism was on the decline, a reduction in the percentage proportions of CO_2 and oxygen was immediately noticed, with a diminution of the amount of oxygen absorbed by the tissues.

The activity of the respiratory interchanges is in inverse ratio to the gravity of the typhoid, i. e., the graver this is, the less elevated the interchanges.

An increase in oxidation signals a victory for the organism; a falling-off in oxidation —its defeat.

In a series of 307 cases of typhoid, treated between 1878 and 1884, inclusively, there were 277 recoveries and 30 deaths, or 9.7

per cent. A second series, between 1885 and 1896, includes 241 typhoid patients, with 229 recoveries and 12 deaths, or 4.9 per cent. In the second series, cold baths, with the application of oxidizing and eliminating treatment, were employed in most cases.

The cold bath stimulates respiratory chemistry in all its forms; it increases the activity of the heart, and, in consequence, the diuresis. These effects are produced by a reflex action on the nervous system. The effect of the bath is not immediate, and sometimes does not occur for an hour.

Analyses of the inspired and expired air were made immediately before and an hour after the bath.

Second analysis showed an increase in the passage of oxygen across the lungs, from increased ventilation, with a remarkable increase in the oxygen absorbed by the tissues. The bath that does not lower the temperature has only a restraining influence, or no effect at all, on the respiratory changes. The patient should be put into the bath when the temperature reaches 39° C., the water should be 20° C., and the duration should be about ten minutes, unless the patient has a chill.

In increasing oxidation, it changes the bacterial and other toxins, originating in the morbid disintegration of the tissues, into soluble, easily eliminated, slightly toxic products. Therefore, the duty of the physician is to favor oxidation by every means in his power. Increase the power of the living cell to take up the oxygen and put it to work. Use medicinal agents increasing oxidation, reject those which lessen it, since the oxygen absorbed plays a very important part in the defense of the organism.

Iodine in Typhoid Fever

Kotchorovsky, in the *Med. Week* (1896, IV, p. 407), claims to have obtained excellent results in the treatment of typhoid fever by iodine administered per os and per rectum, and associated with castor oil and diffusible antiseptics, as follows:

Castor Oil	30 gme.
Tincture Iodine	15 drops
Oil Cinnamon	10 drops
Oil Peppermint	10 drops
Chloroform	5 drops
Powdered Acacia Water } of each enough to make	180 gme.

Tablespoonful half hourly until a purgative effect is obtained.

When the evacuation is sufficient, the above is supplanted by a mixture of equal parts of iodized starch (1 drop of tincture of iodine to 1 gme. of starch), oil of cinnamon and oil of fennel-seed, of which 60 ctg. are given four times in the twenty-four hours.

In addition, Dr. K. employs intestinal irrigations with a mixture of 750 gme. of a solution consisting of 1 part of starch steeped in 100 parts of water, 15 drops of chloroform, from 7 to 10 gme. of tincture of iodine, 25 drops of oil of cinnamon, and 1½ liter of distilled water— the whole of this being used for one enema.

This treatment instituted before the fifth day of the disease, is said always to cut short the disease. After the first week has passed, it does not abort the enteric fever, but causes the affection to run an obviously milder course, as evidenced by the following signs: the coating of the tongue subsides, the stools gradually become normal, the borborygmus and tenderness in the left iliac fossa disappear, the appetite is recovered, the temperature slowly falls, and convalescence begins within five or six days in mild cases, and eleven or twelve days in severe cases. Dr. K. has never met with a recurrence after this treatment.

Recent Advances in General Medicine

Drs. William Pepper and Alfred Stengel, in reviewing the year's work upon this subject (*Amer. Year-Book of Med. and Surg.*, 1897), say that the present is undoubtedly an age of experimentation, and those who pursue this method of study reach the most useful results. Already the fruits of laboratory work are manifest in the greater accuracy of the knowledge of certain affections and in that which is more important to mankind, the discovery of principles that offer a justifiable hope of greater success in prevention and treatment of disease. In speaking of diphtheria the writers say that the same principles that have given to the world a remedy that may at least be assumed of probable value in this disease have been applied to other conditions. The work of Marmorek receives at their hands particular notice. Whether the serum prepared by this investigator will prove itself as useful in the treatment of erysipelas and other forms of streptococcus-infection as some maintain or not, time alone can tell. At present the evidence favors a hopeful acceptance of the claims. In smallpox, typhoid fever, tuberculosis, and other infections, the results have been far less satisfactory, though flattering reports are not wanting. The authors refer to the greater accuracy of knowledge regarding various diseases. This is evidenced in the advance of bacteriology and the titles of reports of cases. Pyocyaneous infection, streptococcemia, infection with the bacillus coli, etc., have taken the place of the more vague and insignificant titles—septicemia, pyemia, etc. Further investigations will doubtless establish more definite distinctions in the symptomatology and nature of the various infections; but for the present it is sufficient that they are beginning to be recognized and separately studied. Certain authors have maintained that acute rheumatism is a form of infection (micrococci), and the evidence is strong and suggestive. Reference may also be made to the positive demonstration of the gonococcus as a cause of general septicemia and of endocardiac and other metastatic lesions. Chemical investigators have been but little less active than the bacteriologists. The problems of autointoxication and the processes of normal and disordered metabolism are beginning to be understood, and special manifestations are recognized in which specific disturbances of the organic chemistry play an important part. There is the difference between the view of the present day and those of the older authors, that demonstration has taken the place of speculation. Reference need only be made in this connection to the investigations regarding myxedema and the thyroid gland, to the studies of uric acid formation, and to the investigations regarding the pathology of gout. Among other evidences of progress, attention may be called to the discovery of the specific cause of the bubonic plague by Kitasato, and the method of Elsner for the diagnosis of typhoid fever.

Black Tongue

Rostovtzev, in the *Rev. hebd. de Lar.* (XVII, 1896, p. 1144), concludes that this affection is essentially characterized by a hypertrophy of the epithelial layer of the filiform papillæ. He denies the causative agency of the *mucor niger* in its production. He passes in review the two current theories concerning the nature of this affection. One attributes it to mycotic infection, while the other denies this parasitic origin and considers the pigmentation as a simple hyperkeratosis of the filiform papillæ, while also recognizing an individual predisposition and the irritating action of tobacco-dyspepsia, etc.

The author himself assents to the mycotic origin of the black tongue. His conviction is based upon the unmistakable transmission of the affection (in the cases observed by him) from one person to another. This contagion has been previously suggested, but never before verified.

As regards the rôle of gastro-intestinal disturbances in the production of this malady, it is probable that they are the effect and not the cause. Black tongue, by determining buccal fermentation, frequently causes digestive trouble. Age, sex or general condition do not seem to be factors in the problem.

Cladothrix and saccharomyces are to be regarded as the especial micro-organisms, standing in causative relation to this rare disease. The negative results of inoculation may be due to the absence of conditions favorable to success and perhaps entirely unknown.

The pigmentation results from the horny transformation the cells have undergone. A certain rôle may be assigned to the imbibition by various germs, of moisture. The buccal cavity contains germs which in this way are able to produce colors other than black.

Treatment comprises above all a forcible extirpation of the hypertrophied papillæ. Cauterization should follow with antiseptic washes.

Value of Mucin as a Sign of Yellow Fever

The author, J. Olivares (*Cron. med.-quir. Habana*, No. 16, 1896), finds mucin to be a constant ingredient of the urine of yellow fever patients. This, he believes, accompanies the albuminuria generally present, as it seems to appear and disappear at the same time as the albumin.

The Influence of Alcohol on Muscular Fatigue

The anti-alcoholic leagues that would seek to purge the materia medica of this useful therapeutic agent can derive little satisfaction from the interesting results of the investigations of H. Frey, in the *Med. Clinik in Bern.*

He shows that in large doses the reaction of tired and fresh muscle is different. For while fresh muscle loses in its working capacity under excessive alcoholic stimulation, tired muscles have their working ability markedly increased. The author also shows that alcohol is to be considered a food under certain conditions.

Lipoma of the Corpora Quadrigemina

A case of a lipomatous tumor, with a slight amount of connective-tissue stroma affecting the corpora quadrigemina, is reported by W. Lorenz, in *Arbeit. aus d. Lab. Obersteiner* (IV, 1896). This tumor, in not being provided with a capsule, is quite anomalous.

Gastric Hyperacidity

Dr. Alt recommends the following powder:

Codeine	3 parts
Sodium Bicarbonate	200 parts

Half a teaspoonful in a little water, three to five times a day, half-an-hour after meals.

PEDIATRICS

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DE FOREST, M.D., H. T. HOTCHKISS, M.D.

A Case of Infection by Vaccinia

E. Kronenberg (*Deut. med. Zeit.*, 1896, XVIII, 283) states that cases of vaccinia produced by being carried from one person to the other are rare, and that generalized vaccinia produced in this manner is rarer still. The case of a boy, eight years of age, is reported, who had eczema at the entrance of the nostrils, caused by adenoids. On May 18, 1895, the aspect the patient presented was very unusual. Crusts occluded both nasal passages. The upper lip was invaded with vesicles about the size of a pea, with reddened base. The entire upper lip was extremely swollen, including the vermilion border, in the center of which there was an excoriated spot. The vesicular eruption spread over the right cheek, the eyelids of the right side, and to the right temporal region. There was also edema of the eyelids. The vesicles had burst in various places, exuding a turbid, yellow serum. The mouth was also invaded by the affection, and there was congestion of the mucous membrane of the hard and soft palates, as well as of the tonsils. The eruptive phenomena manifested themselves a few days after the patient had washed his face with the same sponge used in bathing another child which had been vaccinated. The patient's father was inoculated with the contents of one of the pustules, and a typical vaccine eruption followed. In the course of a week all the pustules emptied themselves, their contents dried up, and the illness terminated.

Sterilized Salt Water Employed Subcutaneously in Intestinal Affections of Nurslings

At a recent meeting of the Société médical des Hôpitaux, M. Barbier and M. Deroyer (*Presse méd.*, Nov. 28, 1896) cited some experiments made by them with this artificial serum in order to establish especially the modifications of the temperature and of the pulses. The serum employed consisted of a seven-per-mille salt solution (7 gme. to 1000 of water). They made their injections in the lateral region of the abdomen. The doses varied somewhat, but never beyond 30 c.c. in twenty-four hours, 15 c.c. being administered in the morning and 15 at night. The physiological effects were as follows:

Thermic elevation occurred nearly constantly, although with variation; this thermic change, in conjunction with the acceleration of the pulse, constituted what the authors termed "time of reaction." The increase of temperature varied from two-tenths to eight-tenths of a degree centigrade for each injection. It could be appreciated half an hour after the injection, being much more distinct after two hours, and perceptible almost in the same proportion three hours later, although often the change noted three hours afterward would be the same as or less than that witnessed two hours afterward. This indicated that the period of "ascending reaction" did not go beyond the third hour after the injection. In fact, five hours after the injection, the temperature frequently differed, and at times was lower than that of the third hour. After this the temperature tended to become lower again. In certain patients, who probably had more symptoms of intoxication, the period of reaction was shorter, and in cases of this type the authors employed three injections a day instead of two.

The distinctness of the thermic reaction was not the same in all the patients. In those that presented the least amount of poisoning, the reaction was the most distinct. On the other hand, when the child was in a moribund state, the reaction was less appreciable. The authors further stated, that perhaps this might be sufficient reason to give an immediate unfavorable prognosis and an indication for repeating the number of injections. The thermic reaction that they observed, was as follows: Hypothermia, normal temperature and hyperthermia.

The modifications of the pulse were parallel to those of the temperature. The phenomena observed were acceleration of the cardiac pulsation, becoming at the same time fuller and stronger. The acceleration averaged about twenty pulsations.

The indications for the employment of these injections were as follows: 1. In acute infection enteritis with hypothermia, which did not expressly indicate, in consequence of an excessive diarrhea, large injections of salt solution. 2. In chronic enteritis which presented the same characteristics of hypothermia, with progressive weakness. In the opinion of the authors, these injections were not indicated in the febrile forms, in which it was not necessary to increase the temperature or the acceleration of the pulse. But they were called for, when, during the course of a febrile diarrhea, a period of hypothermia or collapse supervened.

The injection had no direct action on the diarrhea, *per se*, or on the symptoms, save those of collapse, due to the intestinal toxemia.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

School-Made Insanity

Mr. Harris-Liston, writing in the *Lancet* (No. 3828), describes a case of insanity due to blows upon the head by the open hand. The classical statement made by the old-time surgeon, that no injury to the head which produces insensibility, is too trivial to be disregarded, or too serious to be despaired of, is one the truth of which is frequently in evidence. The case cited by Mr. Harris-Liston is one in which a few blows given on the side of the head by one boy to another was the exciting cause of attacks of insanity of some years' duration.

Although no cause for an attack of insanity is more frequently assigned by parents than a fall or blow on the head during infancy, on investigation some more probable factor is generally to be found. In fact, the report of the Lunacy Commission (British) for 1896 shows that in only 3 per cent. of all cases traumatism was the exciting or predisposing cause.

With the patient considered in the present article, the first attack began when he was 16 years of age, and at school; the symptoms being mental depression, sleeplessness, pain in the head, unsociable habits, and loss of nutrition coming on within two months after the injuries.

Under proper treatment he recovered in a few months, and remained at home for two years; then he had an attack of acute mania, from which he recovered after eight months' treatment at an asylum.

For six years he remained well, spending a portion of his time on a farm in Canada; then he suddenly became despondent, silent, morose, lost all energy, avoided society, refused food, and became emaciated. For a year all his symptoms increased, and he was removed to another asylum. He was then in a state of melancholic stupor, in which state he remained for two years longer (the trouble then having continued for three years), when he began to take a slight interest in his surroundings, and in a few months more recovered and was discharged.

The treatment of his last attack consisted of giving quinine and strychnine in large doses, malt extract, plenty of food, and alcoholic stimulants, cold douches, and latterly, of manual work out of doors, bicycling, golf, swimming, cricket, etc.

The causation of this case is its interesting feature: Blows on the head severe enough to cause unconsciousness on at least two occasions, without lesion of the bone, but producing some molecular disturbance of the brain sufficient to cause insanity.

There are other contributing conditions in the case, only prevailing at this period of life (boyhood), which exist in many schools and give rise to the author's name, "school-made:" the age of puberty, one of the periods of life at which nervous diseases are prone to appear; the reprehensible practice of working scholars in the morning before breakfast, or after a long fast; and the emotional influence of constantly recurring religious services carried out in some schools to a ridiculous extent.

Changes in the Gray Matter of the Spinal Cord in Pernicious Anemia

Teichmüller (*Deut. Zeit. f. Nervenheilk.*, VIII, Nos. 5 and 6; ref. in *Amer. Jour. Med. Sci.*) reports a case of pernicious anemia with arteriosclerosis, paresthesia, chronic enteritis, and increased knee-jerk. On post-mortem, small hemorrhages were found in the corpora striata and corpora quadrigemina. Microscopic examination showed changes such as have been described by others in the posterior columns, and, in addition, hemorrhages in both the gray and white matter, with degeneration in the anterior and lateral columns of the cord. The author combats the view that the changes in the cord in pernicious anemia represent combined system disease, and looks on the change in the gray matter as of chief importance.

Hereditary Syphilis of the Spinal Cord

Diseases of the spinal cord following hereditary syphilis, according to Gilles de la Tourette, in *Nouv. Iconograph. de la Salpetricre*, may appear in the fetus by infection of the uterus, during youth, or in the adult.

The typical lesions in the intra-uterine cases are to be found as a small-celled diffuse meningo-myelitis, analogous to the syphilitic inflammations in other organs of the body. The children are either stillborn, or else are apt soon to die.

In those cases which are developed during youth, the clinical and anatomical symptoms of a cerebral sclerosis are apt to develop.

By exact analysis, medullary symptoms may also at times be made out, and in some few cases spastic paraplegias are certainly due to this hereditary form.

In those that are affected later, the gummata and the artesial lesions are prominent. In the clinical diagnosis the differentiation of this type from the acquired type is difficult, but it seems to be more liable to invade the whole nervous system.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D.

Carcinoma of the Pancreas

In a lecture delivered at Guy's Hospital and reported in the *Lancet* (No. 3826), Dr. W. Hale White threw some new light on the subject of diseases of the pancreas.

Carcinoma of the pancreas was the cause of death in one out of every 300 cases examined in the postmortem room of the hospital. The hospital reports from 1883 to 1894 show that nearly 6000 autopsies were made. On 99 occasions the pancreas was judged diseased, and the following list gives the frequency with which the various morbid conditions were found: Cirrhotic, congested, or hard pancreas, 20; primary malignant disease, 19; small, atrophied pancreas, 16; secondary deposits of growth in pancreas, 11; fatty pancreas, 8; malignant growth of other organs adherent to pancreas, 7; cysts of pancreas (including one case of hydatids), 4; pancreatic calculi, 3; floor of ulcer of stomach adherent to pancreas, 3; tubercle of pancreas, 2; dilatation of ducts not due to growths, 2; floor of duodenal ulcer formed by pancreas, 1; abscess of pancreas, 1; edema of pancreas, 1; and ruptured pancreas, 1.

Since the lists were made out one case of hemorrhagic pancreatitis has occurred.

Referring to diagnosis, Dr. White said: "Rigidity of abdominal muscles means organic disease beneath them."

The only signs of malignant disease of the pancreas, in the early stages, at any rate, and sometimes through life, may be wasting, rigidity of abdominal muscles, deep-seated pain, tenderness, and vomiting, and the latter is often absent.

"It is extremely important to bear in mind that the growth is nearly always in the head of the gland, and as a result of this the common bile-duct is pressed upon, the bile-ducts dilate; the liver becomes enlarged, the gall-bladder is, in at least a third of the cases, distended, and it may be felt as a tumor projecting from beneath the liver; the patient may be jaundiced, his stools clay-colored, and he may show signs of cholemia. Sometimes, when the original growth itself fails to produce these symptoms, they are present and owe their origin to enlargement of the portal glands from secondary deposit. Another but less frequent mechanical effect of the presence of the growth in the head of the gland is that the pancreatic duct is pressed upon, and that part of it which is behind the point of pressure dilates. Bright, more than sixty years ago, pointed out that the motions may, in carcinoma of the pancreas, contain large quantities of fat; it may be so much that it forms a thick scum, particularly about the edges of the vessel containing the feces. As blocking of the common bile-duct is very common, and this symptom is so rare, it is probable that it is most likely due to the fact that the pancreatic secretion is prevented from reaching the duodenum, and failure to digest fat may perhaps explain the fact that patients suffering from malignant disease of the pancreas may waste extremely rapidly.

"The only treatment possible is palliative. Morphia is usually required for the pain, vomiting is often especially difficult to deal with, and you must give the patient all the food he can take."

Upon the Sensitive Centers for the Trunk Muscles in the Cerebral Cortex

Dr. Max Rothman, in the *Neurol. Cent.* (No. 24), says that localization of extremity centers in the central convolutions, in human beings and higher mammalians, is to be accepted as a fully approved fact. On the other hand, someone has stated that the part of the cortex which controls the trunk muscles is not, in its present conception, fully perfected.

H. Munk places this motor area in the cerebrum, in front of the cervical vertebræ. With apes and dogs he could, after partial extirpation of this part of the cortex, cause interference with the flexing of the spinal column on the side opposite the seat of injury. Removal of the anterior portion of the left cerebral hemisphere caused the dog to turn to the right, but the whole body turned, the spinal column remaining rigid. To the left, he turned in a normal manner. There was loss of power to control the muscles used in bending the spine. If both anterior lobes were removed, there was loss of power to flex either side. The same experiments on apes gave a like effect. The side opposite the removed portion of the brain could not be flexed. On removal of both lobes, the body could be flexed at the hip joint only. Irritation by electricity applied to the median portion of the anterior lobe would cause a flexing of the spine, first to the side opposite the irritation, then to the same side.

Opposed to these results are the experiments of Horsley and Schäfer. They could not, after removal of one or both anterior lobes, observe any functional demonstration of the spine. On the other hand there appeared, after extirpation of the gyrus marginalis, a disturbance in the side of the body opposite the lesion. If both gyri marginales were removed, there followed a laming of the trunk muscles and a paralysis of extremities. Irritation of the gyrus marginalis led to movements of the hind extremities, and of the trunk muscles of the opposite side of the body. With these Ferrier agrees.

Unverricht records experiments and shows that the centers for the same muscles are to be located amid the centers for the extremities. Irritation applied to the cortex on lateral parts of the sigmoid gyrus, between the centers of the fore and hind quarters, leads to contraction of the muscles on the same side. The spine crooks itself concavely to the side of the irritated hemisphere. Removal of the whole sigmoid gyrus showed that, if irritation was applied, there would be manifestations of the same on both sides. Minute experiments on animals, particularly dogs, were carried out, and nerves traced by means of incisions into the various regions, and the result of these showed that extirpation of one side produced disturbance in the opposite side, and total extirpation of the extremity region of one hemisphere did not affect the trunk muscles.

The writer concludes, as the result of his researches, that there is no center for the trunk muscles in the cerebral hemisphere.

Spindle-Celled Sarcoma Cured by the Mixed Toxins of Erysipelas and Bacillus Prodigiosus.

Dr. W. B. Coley, as reported by the *Annals of Surg.* (Feb., 1897), presented to the New York Surgical Society a woman aged 42 years, apparently cured of an inoperable sarcoma of the axillary and subclavicular region. The case had been pronounced inoperable by several surgeons, and the treatment with the toxins was begun on December 16, 1895, by Dr. M. Storrs, of Hartford, Conn., and carried out under Dr. Coley's direction. The treatment was discontinued on March 17, 1896, at which time the tumor had entirely disappeared, and the patient was rapidly gaining her lost flesh and strength. In a short time she had regained twenty-five pounds. She had no further treatment, and Dr. Coley showed her to the Surgical Society Nov. 11, 1896, in perfect health, with no trace of recurrence. A portion of the tumor was removed and examined by Drs. Dunham and Buxton, pathologists to the New York Cancer Hospital, and also by Professor William Welch, of the Johns Hopkins Medical School, all of whom confirmed the diagnosis.

In the discussion that followed, Dr. Coley stated that the toxins had a far greater effect upon the spindle-celled variety of sarcoma than upon any other, eight out of fifteen cases having totally disappeared, and all the remainder showed marked decrease in size.

This method was advised by Dr. Coley only in inoperable cases.

Blennorrhea Treated with Ichthyol

Dr. S. Werner, in *Monats. f. Prakt. Derm.* (1896, XXIII), gives the results of a series of investigations into the use of ichthyol in the treatment of blennorrhea. He used the ichthyol in the form of 1- to 2-per-cent. douches, and altogether treated 120 patients with some 1500 irrigations. Of all these patients, only eighty-eight could be kept under his control, however. The injections were made in such a manner as to dilate entirely the folds of the urethra, in order that the liquid might be brought into contact with every portion of the mucous membrane. At times the liquid passed into the bladder, and in such cases about 100 c.c. of the liquid were allowed to flow in, and then the patient was directed to urinate, the flow being occasionally checked by pressure at the orifice of the glans. This procedure was repeated once or twice. Altogether, it was found that 500 c.c. was a fair average for each sitting. Cold solutions were preferable, since it is thought that in such solutions the disinfectant power is increased, and an astringent effect is also obtained.

Among the eighty-eight cases mentioned were six cases of acute vesical catarrh, and twenty in which the gonorrhea was confined to the pars anterior. The secretion was permanently free from gonococci within the first week of the treatment.

Six cases of acute vesical catarrh, and four cases of urethritis not due to gonorrhea, were also treated with ichthyol irrigations. In the latter cases, seven to nine applications suppressed the secretion and inflammation. In the former, most excellent results were obtained. After two irrigations the urinary tenesmus disappeared, the temperature declined, and the urine became clear; after eleven to fifteen douches, a permanent cure resulted.

The writer believes that also in vesical catarrhs accompanied with high fever, urinary tenesmus, and hematuria, the use of ichthyol is of great advantage.

Canova recommends a 1- or 2-per-cent. solution of ichthyol as a urethral injection. He says it is painless and very efficient; in a few cases it has cured the disease in so short a time as six days.

EYE, EAR, NOSE, AND THROAT

JOHN C. LESTER, M.D., HEBER N HOOPLE. M.D.,
VINCENT GOMEZ, M.D., WM. C. BRAISLIN, M.D.

Tracheal Injections of Creosote in Laryngo-Pulmonary Tuberculosis

The first Spanish Oto-Rhino-Laryngological Congress was inaugurated in Madrid on Nov. 18, 1896. Various interesting papers were read, one of which is published in the *Gac. Med. Cat.* (Dec. 15, 1896), bearing the above title.

The author, Dr. Ricardo Botty, has employed laryngo-tracheal injections of different antiseptic solutions, but especially creosoted, for five years in patients with laryngeal phthisis, who, at the same time, presented tuberculosis of both apices. Beginning with several c.c., he at times has reached 80 and even 100 gme. of the antiseptic solution, introduced with impunity into the trachea. As a solvent he employs olive oil, and recently cod liver oil.

The rapidity of absorption of fluids by the bronchi and pulmonary vesicles is far superior to that of the gastric mucosa—a fact which, according to Colin, is due:

1. To the immense extension of the mucosa.
2. To the thinness of this membrane, whose capillary meshes are extremely superficial.
3. To the arrangement of the epithelium, reduced in the small branches to only one layer of cylindrical cells, and in the pulmonary vesicles to a layer of very thin, flat cells.
4. To the cardiac and inspiratory impulse, which at once carries forward the gases, vapors, and fluids that are absorbed by the numerous vascular ramifications that surround the vesicles and terminal bronchi.

The pulmonary capacity in a healthy man varies from 2500 gme. to 4000 c.c. Moreover, irritant medicated solutions are astonishingly tolerated by the broncho-pulmonary mucosa, so much so that a ½-per-cent. solution of bichromate can be injected without giving rise to the slightest disturbance. This, in part, can be easily explained, because, if we except the substances capable of producing marked local irritations or real cauterization, it takes some time before the inflammatory reaction takes place, and before this can happen, the absorption is so great that the fluid has already passed into the circulation.

The author's technique is as follows: Frequently he first anesthetizes the laryngeal mucosa by a few applications of a 10-per-cent. solution of cocaine; in others he does not employ any anesthesia at all; then the cannula of an appropriate syringe is introduced beneath the vocal cords. The syringe employed is of the capacity of 20 gme., the cannula is very thin and long, having the curve of a laryngeal stilet, the object being that it reach to the sub-glotteal region or to the first tracheal rings. The end of the cannula has a small bulb, to which is attached a rubber tube two ctm. in length, so that it can reach to a greater depth without wounding the walls of the laryngo-tracheal mucosa. The syringe, containing a solution of creosote or guaiacol in olive oil, in the strength of 1 or 2 per cent., is grasped with the right hand; the end of the cannula is introduced, little by little and gently—of course, being guided by the laryngeal mirror held in the other hand. This act nearly always causes coughing, at times accompanied by a slight spasm of the glottis, this happening more often where no cocaine is employed. In cases of this kind one should wait a few moments before going any farther. After this pause a few drops of the solution are allowed to escape by pressing the piston of the syringe, which at times will give rise to a second attack of cough, while, on the other hand, it frequently is perfectly tolerated. This second attack having passed off, without moving the cannula from the interior of the laryngo-tracheal opening, the solution is again allowed to flow slowly, drop by drop, or in a filiform stream, care being taken to have this flow parallel to the anterior and posterior walls of the trachea. To obtain this, the body of the syringe is moved upward or downward. By this means the point of the syringe comes in contact with one of the walls of that aperture. In this manner from three to ten gme. of the solution are injected, and the syringe is removed.

At the first sitting, and especially when the patient does not tolerate it well, the injection is not repeated until two days have passed, progressively increasing the dose until one employs from 20 to 25 gme. of the solution, which is the average that the majority of the patients treated could tolerate. There are patients, however, that do not experience the slightest disturbance, save a very slight cough, upon the introduction of the last few drops of an injection of from 40 to 50 gme.

As to the results of this treatment, they were as follows: In more than half of the patients treated the pulmonary lesions remained stationary, the expectoration diminished, and the cough was much less frequent; the appetite improved, as well as the general nutrition. Even in cases of advanced pulmonary tuberculosis, the tracheal injections improved the morbid process, acting locally, which was perceptible by auscultation, or affecting pulmonary absorption. When the tubercular process is incipient, this treatment during a few months, followed by life in the country and physical repose for double this time, appears to have an apparent curative effect upon the malady in nearly half of the cases belonging to this category. The remaining cases —that is, from 30 per cent. to 40 per cent.— only experienced improvement.

Affections of Vision and Changes in the Fundus Oculi in Miners

Bourguet (Graissessac) contributes to the *Gaz. des Hop.* (Nos. 139 and 140) an exhaustive article on the above subject. The leading fact elicited is that the eye suffers in the general deterioration of the whole system, when the conditions of labor in the mines are such that the air supplied is laden with gaseous impurities, such as carbon monoxide, carbon dioxide, nitrogen, fire-damp, etc.

In the case of carbon dioxide, he cites the experiments of Prof. Paul Bert, which show that the muscles plunged into an atmosphere of CO_2 lose quickly and completely their contractility, and quotes Professor Peter in saying: "Carbon dioxide acts thus not only as an irrespirable gas, but as a true poison."

He holds, with Manouvriez, that all coal gases produce a kind of intoxication on those breathing them. New observations confirm the harmful character of the carbureted hydrogens.

Potain has noticed poisoning by the essence of turpentine, whose specific action is to cause failure of nutrition and anemia, because of its too ready absorption by the lungs. Where mines are well aired, all the workmen are free from both the general evils above indicated and those of vision. The safety-lamp was not the cause. Where the safety-lamp was a necessity, on account of the large percentage of fire-damp, that large diluent of the good air was the offender, and not the lamp.

Galezowski observed eye-troubles in workmen using sulphureted carbon. He found benefit for these conditions in using phosphide of zinc.

Dr. Pechdo (Villefranchi), writing to the Ophthalmological Congress of 1893, attributes miners' nystagmus to mine gases. The overheated galleries in which the miners work disengage a maximum of the noxious gases. The impurity causes more laborious respiration to obtain good air, which effort is concomitant with cerebral anemia.

An interesting observation is that in all cases of mine-gas poisoning the pupil responds slowly to atropine, showing weakened contractility of the radial muscles of the iris.

The cases cited show 11 per cent. of those affected had been in the mines less than two years, while four or five were affected after being there only a few days or weeks. The congestion which marks the onset of the eye lesions, is produced very rapidly and is not transient. In one case of congestion of both optic discs, causing failure of vision to No. 18, J., after but five days in a new mine, though the man had worked three years in another mine, the sight returned after two or three hours' absence from the mine. On re-entering the mine, in one to 1½ hours, the symptoms reappeared. The man was twenty-nine years old, robust, and had worked with the naked lamps in a place well aired, not too hot; nor too moist, and was evidently affected by the lamp itself. This case responded well to revulsives and rapidly accommodated itself to the new conditions.

In most cases, however, the sight was good or bad, according to the extent of impurity of air, after due allowance was made for humidity and habits as to use of tobacco and alcohol, those cases being chosen in which these were not factors. Where tobacco and alcohol were used, the cases were much more rebellious to treatment. The lesion, however, most commonly found in these habitués was papillary atrophy, whereas in young miners, not addicted to these, choroidal atrophy was the prevailing lesion. One case of specific (syph.) papillary atrophy, where careful treatment ought to have affected a cure, resulted in blindness, owing to the injurious influence of the mine-gases.

Electrolysis in the Treatment of Detached Retina

Snell (*Ophth. Soc. Un. Kingdom*) reports three cases treated by electrolysis: One a hopeless case, to test the method—in this one the detachment was materially reduced; the second, an extensive detachment, had been materially improved, the field increased, and the vision considerably improved; and the third resulted in a practical disappearance of the detachment, a much enlarged field, and also improvement of vision from fingers indistinctly to 15/c. The method is worthy further trial.

DERMATOLOGY AND SYPHILOLOGY

James M. Winfield, M D., Homer E. Fraser, M.D.

Acquired Idiosyncrasy Against Antipyrin

Dr. Briquet, in *Méd. mod.*, reports an interesting case of an *acquired* idiosyncrasy against antipyrin. A young man had an attack of typhoid fever, of which he recovered completely. But since the attack the minutest dose of antipyrin produces an erythematous eruption on his genital organs and on the mucous membrane of the mouth, accompanied with bullæ. If the dose be somewhat larger (1½ grn.), the bullæ become ulcerated, and heal with difficulty in a period of about two weeks.

The interesting points in this case are:

1. Before his attack of typhoid the patient had a perfect tolerance for antipyrin.
2. His organism is becoming more susceptible to the action of the drug with each experiment, so that each time a severer dermatosis can be excited with a smaller dose.

Hyperidrosis of the Feet

The following formula is recommended (*Méd. mod.*) for hyperidrosis of the feet:

Alumnol.
Aristol ....*aa* 1 gme.
Amyli .... 4 gme.
Use as a dusting powder.

Streaked Skin Affections of the Lower Extremity

Julius Heller (*Internat. Atlas of Rare Skin Diseases, Part XII*, 1895; ref. in *Amer. Jour. of Med. Sci.*) depicts collectively several old and recent cases of this particular group of diseases of the skin. The striated distribution of the disease over a part or the whole of the lower extremity is dependent upon anatomical conditions, and is common to the whole class of such affections. The cases depicted and described were observed by the writer, by Unna, Shearer, Philippson-Unna, and Neumann. Some were of an inflammatory nature; others possessed the general characters of nevi, for the most part unilateral.

He concludes that, although the illustration of the five cases, the history of the disease, and his observations upon the cases do not solve the pathogenesis of these striated diseases of the skin, nevertheless they lead to the following positive and not unimportant conclusions: All attempts to explain by any one system the streaked or striated affections of the lower extremity have failed. Just as in one case involvement of the larger lymphatics can without doubt be considered the cause of the streaked character of the eruption, so in other cases this factor can be with certainty excluded. The anatomical basis of every case ought, therefore, to be separately determined.

Recent Discoveries as to the Essential Fungus in Ringworm

The discovery of the trichophyton was announced by Gruby in 1841. The class of fungus (*The Charlotte Medical Journal*) to which it belongs is still uncertain. Declaux and Leslie Roberts cultivated the trichophyton fungus outside the body, and the latter observer reproduced the original disease by inoculation. Sabourand, however, has made great advances in our knowledge of the subject within the last few years. He showed that the two chief varieties in man were a large-spored (megalo-sporon), and a small-spored (micro-sporon), the two never being found together on the same head. His conclusions may be stated as follows:

1. The small-spored tinea fungus (micro-sporon Audouini) is by far the more common in children, being met with in two-thirds of the cases. The mycelium tubes grow in the substance of the hair, but the spores form a dense "mosaic" layer or sheath round its shaft. There are few species of the micro-sporon, and with the exception of one found upon the horse, they are human parasites. It is the common fungus of the scalp ringworm, and is rebellious to treatment.
2. The large-spored variety has many species, and is contracted by man from various lower animals, as the dog, horse, or cat. It is essentially the fungus of ringworm of the beard and of the smooth parts of the skin. As a general rule it is much more readily overcome by treatment than the small-spored forms.

These researches, which proved the plurality of the ringworm fungi, have been extended by many observers. In England, Adamson has published a capital account of the work in that direction, which in the main confirms the conclusions of Sabourand. He finds, however, that the small-spored variety is by far the more common in England, for it occurred in 273 out of 278 scalp cases, the remaining five being large-spored. In the latter account he stated the proportion to be 95 per cent. in 263 consecutive cases. When cultivated outside the body in an artificial medium (Sabourand uses a peptone maltose agar-agar) the micro-sporon shows a downy surface and white color, whereas the megalo-sporon has a powdery surface with branching rays and often a yellowish tint.

Notwithstanding these recent additions to our knowledge, no great advances have been made in treatment. The main difficulty of ringworm is a mechanical one, the fungus burrowing into the substance of the hair, as well as into the hair follicles and deeper layers of the epidermis, where it is beyond the reach of parasiticide remedies. A large-spored patch in the skin where the hair is rudimentary (lanugo), as at the back of the hand, may often be cured with a single application of tincture of iodine. In the same way a megalo-sporon patch on the scalp may be sometimes rapidly cured. But take a chronic ring on the head, where the hair has broken away, leaving only a scanty stubble of dark stumps, and one may paint on iodine day after day for a month with little effect. In the last-mentioned case the fungus has got into the roots of the hair and the deeper layers of the surface skin. In fact, to cure a chronic ringworm requires a large amount of resource, together with the utmost patience and thoroughness of treatment.

Considering the infectiveness of the fungus, and the ease with which its myriads of spores may be spread about, the wonder is that this pest of mankind is not far more universal.

Desquamation of the Skin, Following Influenza

Dr. J. J. Pringle (*Brit. Jour. of Derm.*, Dec., 1896) presented the following case to the Dermatological Society of London at its November meeting:

A man aged 40, a tailor, alcoholic and very neurotic, who had been under the exhibitor's observation during the last and the present year, suffering from a *recurrent desquamative affection of the skin following influenza.* He stated that in 1890 he suffered from peeling of the hands and feet after an attack of "bronchitis," in the London Temperance Hospital.

In February, 1895, he had a typical severe attack of influenza, and was in bed a month with it. He does not think he had any rash. In the beginning of March his hands and feet began to peel and his nails to become dry and brittle. He came under observation on March 21, when the following note was made: "Over both hands the epidermis is peeling off in large sheets, especially from the fingers, leaving the subjacent skin healthy. There is hypertrophy of the nail-bed of all the fingers, and especially of the thumbs, where the piling up of epidermis is so great as to threaten the vitality of the nail. There is similar desquamation of the soles and similar changes in the toe-nails, but less marked. The man is in a marked condition of post-influenzal neurasthenia."

Subsequently all his nails fell off, and were replaced by new nails with prominent transverse ridges. His nervous prostration persisted; he complained of persistent "paralytic feelings" in the fingers, and disordered sensation. Finally he became profoundly melancholic, but improved greatly at a convalescent home at the seaside.

He got another attack of influenza in October, 1895, followed by similar changes and total loss of nails, and again in February, 1896. Recently he had a fresh attack, called "Bronchitis," and he returned to the hospital on November 4 with desquamation of all the fingers, although more marked in some than others. The nails are now not obviously affected, but he says he has no feeling in them, and that cutting them is "like cutting a bit of wood." There is on examination no anesthesia, but some loss of tactile sensibility.

Myoma Multiplex of the Skin

Dr. H. Radcliffe Croker (*Brit. Jour. of Derm.*, Jan., 1897) reports a case of this extremely rare skin affection. The author has succeeded in collecting only a dozen cases besides his own. The disease has been studied and classified by Babés, who divides it into four varieties:

1. Myomata springing from the vessel walls;
2. Hyperplasias of the arrectores pili:
3. Neoplasms from the deep muscular layer of the skin;
4. Myomata from embryonic "remnants."

Croker's case was in a man aged 43. Eighteen years before consulting Dr. C. there appeared on the left side of the lower jaw a small tumor, which was diagnosed as a fibroma. Slowly a number of similar tumors formed around the primary one, until a patch of closely aggregated, painless brownish-red tumors formed, occupying a space from 1½-1 inch in area. They were removed by the knife. After proving the history of his own case, he gives a short account of twelve cases observed in various parts of the world.

A Paste for Eczema

The following formula is given by the *Journal des Praticiens* for Feb. 13, 1897:

Zinc Oxide, Talc.	each	10 parts
Olive Oil, Lime Water,	each	30 parts
Wool Fat		20 parts
Tincture of Benzoin		1 part

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

Congenital Solid Tumors of the Navel

Congenital tumors of the navel which are solid in their structure are of rare occurrence, and the literature of the subject has been increased by the recent article of Winckel, who reports (*Lam. klin. Vort.*, No. 140) a new case. As in earlier cases, this proved, upon microscopic examination, to be a telangiectasic myxosarcoma. The lymphatics were involved in a peculiar manner, there being an increase of their epithelial lining and a cystic dilatation of their walls. Attention is called to the fact that the permanent portions of the navel were the parts from which the growth took its origin. In view of the fact that, according to the theory of Cohnheim, the embryonal tissue at the junction of the cord with the skin, the amount of Wharton's jelly, and the numerous lymphatics and blood-vessels would predispose to the growth of neoplasms in their tissues, the selection of the more permanent tissues by the new growth would indicate that injuries and disturbances of circulation played an important rôle in the etiology.

The Effect of Lactation Upon Menstruation and Conception

Dr. L. Remfrey (*The Canadian Practitioner*) summarizes a paper read before the Obstetrical Society of London, as follows:

I.—Of 100 nursing mothers, only fifty-seven present complete amenorrhea, forty-three menstruate more or less, and of these only twenty menstruate with absolute regularity.

II.—Conception is not so easily produced during lactation as in the ordinary state; but this is not so in the proportion to which it has been claimed.

III.—If during lactation there occur an absolute amenorrhea, the probabilities of conception are only 6 per cent.; if menstruation occur, the probabilities are 60 per cent.

IV.—The more regular a woman is during lactation, the more easily does she become pregnant.

V.—The changes that occur in the uterus during lactation accompanied by menstruation are presumed to be similar to those that take place during the ordinary menstrual periods, the uterine mucosa forming a nidus for the reception of the ovum.

VI.—In women who do not nurse absolutely, the menstrual flow, as a rule, appears within the first six weeks that follow the birth of the child.

Treatment of Dysmenorrhea with the Galvanic Current

Dr. O. A. Gordon (*B'klyn Med. Jour.*, Jan., 1897) has employed this method of treatment for the past three years, and he believes that for cases not due to a faulty condition of the nervous system, or an impoverished state of the blood, galvanism is the best mode of treatment, and that it will give relief in more cases than any other agent.

Treatment was applied once a week for a month, and then a few days before menstruation for a few times, as follows: A Law battery of sixty cells is employed, and the electrode used resembles an ordinary uterine sound. For the abdomen Dr. G. uses a copper electrode, about four by six inches, and covers it with fresh absorbent cotton for each patient. The uterine electrode is connected with the negative cord, and inserted into the cervical canal, as far as it will go without pressure, and the current turned on until fifteen or twenty milliamperes are reached. Care should be taken that the point of the sound does not rest against the fundus. Five or six minutes is long enough for each application. Antiseptic precautions are observed throughout.

The following advantages, according to the author, may be claimed for this mode of treatment:

1. Patients will submit to electrical treatment when an operation would be declined.
2. It can be carried out in the physician's office without an anesthetic, as it is attended by very little, if any, pain.
3. Any physician with the necessary appliance and moderate knowledge of gynecological work can apply the treatment without assistance.

Oxygenated Water in Uterine Hemostasis

Petit, in an article in the *Gaz. gyn.*, abstracted by the *Indépendance méd.*, says that oxygenated water immediately provokes coagulation of the blood by simply accelerating the precipitation of the fibrin without destroying the corpuscular elements of the blood and of the tissues, which are simply modified, and that it is an excitant of the smooth fiber. These properties of oxygenated water are simply an exaggeration of the normal properties of atmospheric oxygen. Moreover, several experimentors have noted that the coagulability of the blood is increased under the influence of oxygen.

While watching the effect of oxygenated water on the blood, M. Petit observed the instantaneous formation of two layers, one above composed of a thick froth which incarcerated one or more dense clots, and another below made up of a dark serum whose color was due to oxidation of the hemoglobin or hematin.

Owing to these properties the author believes that oxygenated water is the preferable hemostatic for external use.

The Protean Influence of Pregnancy on Idiopathic Epilepsy

Pearce (*Transactions Philadelphia County Medical Society*, Vol. XVII, Dec. 23, 1896) gives the results of an extended research on this subject, of which there is but little definite knowledge recorded in the literature. There were nineteen cases studied in detail, collected from various sources. Reference was had to several other cases in which minute observation had not been given. Incidentally the author advances the theory of motility of the neurons as a cause of essential epilepsy, stating that this can be applied with nice precision to the motor explosions occurring in this most singular disease—"for such irregular contractions of the protoplasmic mass may separate the dendrites to such an extent as to cause great incoördination of molecular force ordinarily held in abeyance by their normal coaptation."

The following are the author's conclusions: "I have thus detailed nineteen cases of pregnancy in idiopathic epilepsy. Where not otherwise mentioned, the kidneys in all cases were normal. The evidence is pretty conclusive that there is a wide range of effect on the number and frequency of epileptic seizures in pregnant women. The results of this research also show clearly that in the majority of cases the attacks are lessened in frequency during pregnancy. This would preclude the possibility of intestinal auto-intoxication being the primal cause of any epilepsy, for during gestation, constipation is the rule, and toxins, therefore, are more readily generated in the gastro-intestinal tract. Yet it cannot be doubted that such poisoning is an excitant of the already unstable brain-cell in exceptional cases. As stated in the body of the paper, the referring of nerve-energy, in the physiologic process of pregnancy, to the uterine organs, prevents any excitation of the motile brain-mass, and in those cases in which the attacks are increased, some irritation must exist that we are not able to fathom. It is well known, too, that attacks are often lessened in intercurrent diseases in epileptics. Then, there are two classes of epileptics, one in which degeneration of the neuron soon supervenes upon idiopathic epilepsy, and a second in which degeneration is much delayed after these terrible explosions. The great Napoleon was an example of the second group. Which incipient cases in pregnancy belong to the first or second groups, is unknowable. Therefore, the protean effects of the normal drain of pregnancies upon the epileptic woman cannot be foretold. We can but hope to cut off the marriage of the epileptic as a means of positive solution in favor of the present and future generations."

Shock

Dr. William Rühl (*Centralblat f. Gyn.*, No. 19, 1896) points out that traumata of various organs, especially those of the abdomen and pelvis, are capable of producing very profound reflex disturbance of the heart and lung, even causing death in some cases. During an operation the anesthetic usually holds the reflexes in abeyance, but upon awakening, trauma and pinching of the nerves may bring on symptoms of collapse.

There are two factors in the production of these cases of post-operative shock—the trauma and the susceptibility of the patient. The latter probably plays the more important part.

Two cases of severe shock are reported in which no cause except trauma of the viscera could be found. Both cases yielded promptly to large doses of morphine given hypodermatically.

Atresia of the Vagina

Dr. Hyrup-Pedersen (*Col. Med. Jour.*) reports a case of this kind. During an attack of diphtheria a cast of the vagina was passed, which fact was ignored by the attending physician. The patient, who was about 15 years old, had symptoms of menstruation without the flow. Discomfort in the pelvic region was constant and increasing at each epoch.

An anesthetic was administered. The vaginal walls, which were agglutinated, were separated with difficulty, and at the risk of opening into the bladder or rectum. At a distance of four inches a tumor was found. The capsule was incised and three pints of sanguineous fluid removed. The uterus was found inside this capsule. The cavity and vagina were washed out with antiseptics and packed. On removal of the gauze, a tube was left in. This was inserted each night to prevent agglutination of the vaginal walls. The patient recovered.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D., HERMAN B. SHEFFIELD, M.D.

Non-Bacterial Toxins and the Mechanism of Immunity by Antitoxin Serums.

Calmette and Delarde, in *Ann. de L'Inst. Pasteur* (1896), furnish their report of a series of investigations on some toxins which are of non-bacterial origin, and in a second part of the same paper some theoretical deductions bearing upon the subject of immunity are discussed.

The toxins investigated were: (1) The aqueous and ethereal extracts of jequirity seeds, yielding an impure abrin, and (2) a mixture of various snake venoms.

The toxic action of abrin was investigated in a large number of animals, most of which succumbed to small doses of the poison. A few only were found to be relatively immune—these were the hedgehog, hen, tortoise, viper, and frog. These animals could, however, be killed by larger doses.

Experiments of the same order were made with purified abrin. Of this double doses were required to get the same action as with the impure material.

The researches with the mixture of venoms developed the facts that certain of the venomous snakes were relatively immune. The authors formerly held that this immunity was absolute, but were led to modify their opinions by those studies. The horned viper of Egypt, boa constrictor and garter snake succumbed following the injections of doses larger than that normally developed in the glands of the reptiles. Certain other animals were experimented upon and shown to be absolutely immune, i. e., the hog, hedgehog and mongoose.

In discussing the theory of immunity in reptiles, the authors hold that there are "no antitoxic substances in the serum of reptiles that could explain their relative immunity, or if such a substance does exist, it is found in juxtaposition with some kind of a toxic substance which it has been impossible to isolate." Therefore the cause or causes of the relative immunity of serpents must be sought elsewhere.

The authors studied the substance of the liver and central nervous system; these organs were bruised and the blood and lymph carefully filtered and this fluid was used with or without an addition of venom as an injection fluid: The results were negative, the animals dying as before.

Some interesting experiments were made with the serum from the hogs, which animals are notoriously immune. The mixed hog serum and venom gave absolutely negative results.

The authors' general conclusions, in so far as studied, were:

1. The serum of those animals, which are naturally refractory to toxins, rarely possesses antitoxic power with reference to these toxins.
2. Refractory warm-blooded animals can produce antitoxins by means of repeated injections of non-lethal doses of toxins. Cold-blooded animals under the same conditions do not produce these antitoxins.
3. Refractory cold-blooded animals, as the frog, can acquire an immunity against lethal doses of toxins without having their serum show any antitoxic action.
4. Antiabrin and antivenom serums can be practically utilized to produce passive immunity in man and animals, and are also of value in toxicological research in the hands of experts.
5. The active substances in antitoxic serum are not destroyed by certain chemical agents which destroy the toxin.
6. Certain substances deprived of all specific toxic action, as the serum of vaccinated animals, can exercise preventive action in various infections and intoxications.

Finally the authors come to the standpoint that "It is still an open question whether there exist any antitoxic substances, *per se*, in the serum or whether the phenomena are not due to purely biological reactions, such as motility, inhibition, chemotaxis, etc." Further, the following admissions are given:

(1). The antitoxic function is independent of immunity, because immunity can be found to exist, and yet no antitoxins are to be found.

(2). That the two varieties of immunity, natural and acquired, are the resultants of a specialized biological property of the cells.

The Bacteriology of Mumps

P. M. Mecray and J. J. Walsh, in the *Med. Rec.* (L, No. 13), say that an epidemic of mumps in the Camden Home for Friendless Children, in the service of Dr. Mecray, suggested the idea of looking for the disease in the secretion from the parotid as found in Steno's duct before its entrance into the mouth. Previous investigations on the bacteriology of mumps were negative or incorrect.

A number of microbes have been described by different writers as occurring in the blood and saliva in mumps. It was generally held to be some form of bacillus.

"Considerable study has been devoted to

the micro-organism found in parotitis in which the inflammation had gone on to suppuration, but in these cases there had been a mixed infection, and pus cocci were of course demonstrable. The infrequency of abscess complicating parotitis makes it extremely unlikely that the mumps organism of itself would ever cause suppuration.

"Micrococci distinct from pus cocci were found in the blood and saliva in a severe case of mumps in 1885 by Dr. Netter at La Pitié, and a coccus that they thought specific was found by Laveran and Catrin in an epidemic of mumps that occurred among some regiments quartered in Paris in 1893. In their report to the Society of Biology, January 28, 1893, they describe the organism as a micrococcus seen most frequently in the form of a diplococcus, though sometimes found in fours, or as zoöglea. They grow well on the ordinary media, though rather slowly, clouding bouillon somewhat in twenty-four hours, and appearing on gelatin after forty-eight hours as small white punctiform colonies, which develop very slowly and liquefy some considerable time after coalescence. They grow on potato and give a whitish appearance not easy to detect.

"In a further communication to the society, May 20, 1893, they report that they had found the organism in sixty-seven out of ninety-two cases of mumps examined. In the exudate of the inflamed gland obtained by puncture with a syringe, they found it thirty-nine times out of fifty-six in pure culture and twice in mixed cultures. The fifteen negative results they consider due to the fact that but an extremely small quantity of the exudate could be obtained. In the exudate from the metastatic orchitis of mumps the organism was found in twelve out of sixteen cases, in pure cultures. The blood of patients gave pure cultures of their "diplococcus" ten times in fifteen trials when taken during the fever. In all cases growths of the micro-organism had to be obtained, as it could not be found in the blood or secretions by the microscope directly, the number of cocci present seemingly being very small."

The micrococcus form usually seen as a diplococcus was usually found by the writers in cultures from Steno's duct. In blood drawn from the ear the same micro-organisms were found. "Out of the eight tubes two gave an entirely negative result, three gave pure cultures of the characteristic diplococcus, and three gave a mixed result, the diplococci being found, but with them other cocci, notably a staphylococcus form, probably the staphylococcus epidermidis albus.

"Control tests made from the blood of five healthy children gave absolutely negative results. Cultures made from Steno's duct in these same children gave us various oral micro-organisms in four cases, but not the diplococcus found in the mumps cases."

Transmission of Anthrax by Means of Hides and Leather

A series of investigations were made by E. Griglio, in *L'Ufficiali Sanitario*, upon the skin of cats that had died of anthrax by inoculation. Some portions of the infected skin were dried, salted, and tanned.

The conclusions reached were:

1. That the skin of a cat dying of anthrax is still virulent after drying, salting, or tanning.
2. That forty days' treatment by special tanning solutions does not destroy the virulence of the germ, and that the leather so prepared is capable of causing the disease.

The Development of Diphtheria Bacilli in Milk

Dr. Schottelius, in *Centralbl. f. Bakt.* (XX, 1896), shows that in comparing fresh cow's milk, sterilized milk, and nutrient broth (the last as a control), the diphtheria bacillus both at room temperature and in the incubator at 98°, grows with great rapidity in fresh milk, and in sterilized milk the growth is even much less than in the nutrient broth —the numbers of bacteria developing after six hours at room temperature being twenty-one million for the fresh milk, two million for the sterilized milk, and seven million for the broth control.

◆

Latah—A Mental Malady of the Malays

Dr. W. G. Ellis, in the *Jour. of Ment. Sci.*, describes this disease as a malady by no means infrequent among the Malays, and yet by no means well pictured.

Under this term is understood a variety of peculiar nervous conditions of a transitory type, which are difficult to classify on account of their protean aspects. In all, the disease is sudden in its onset, and two types are generally recognizable. In the first class, involuntary and frequently unwilling mimicry is the predominant symptom; while in the second class, an abrupt and generally short, paroxysmal attack of coprolalia is present.

The author gives some histories of the different forms which portray the general features of the disease quite graphically.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.

The Influence of the Waters of Kissingen, Homburg, Upon the Metabolism of Man

Carl Dapper, in the *Zeit. f. klin. Med.* (XXX, Nos. 3 and 4), gives the following as his chief conclusions:

1. Researches upon the influence of mineral waters upon the processes of metabolism must, when possible, be carried out upon the sick.
2. In numerous cases of gastric disturbances, especially in gastric catarrh, the use of sodium chloride waters is followed by active and lasting increase in the production of hydrochloric acid.
3. In numerous cases of gastric disturbances associated with hyperacidity, especially in nervous dyspepsias, the moderate use of sodium chloride waters is attended by a diminution of hydrochloric acid production and consequent amelioration of the complaint.
4. The use of sodium chloride waters does not demand a definite "cure" diet. To firmly adhere to such a diet is often an improper and injurious procedure. The prescribing of large amounts of fat during the water cure is not contraindicated in appropriate cases. Likewise, in appropriate cases the consumption of raw fruits is permissible.
5. The use of large amounts of sodium chloride waters, as has been shown by numerous experiments upon the sick, does not interfere with the absorpton of foods, especially of fats.
6. The transformation of albumin is not increased by sodium chloride waters; hence, these waters may be employed even in those cases where it is quite important to protect the albuminous constituents of the body.
7. During the consumption of dilute sodium chloride waters, the uric acid excretion remains unaltered, or experiences but slight increase.

Oxidized Pyrogallol

P. Unna, in *Sem. méd.* (1896, XVI), says that pyrogallol is credited with very energetic curative properties in regard to certain dermatoses, but it also has the effect of irritating the teguments, coloring them black, and also, when absorbed by the skin, of provoking phenomena of intoxication that may become formidable. According to the writer, however, these serious inconveniences may be avoided by employing, instead of the ordinary pyrogallol, an *oxidized* pyrogallol, made by exposing the ordinary article to the action of the air, and to ammoniacal vapors. By this treatment a substance is produced having a deep brown color, but its chemical composition has not yet been definitely determined. Its advantages were well shown by treating psoriasis, or eczema, with ointments prepared from the usual pyrogallol, and from the oxidized, when it was found that, where the pyrogallol was used, although a cure was had as usual, yet at the same time the circumference of the lesion became colored black, and, where the skin was sensitive, even became the seat of an erythematous or papulo-pustular dermatitis. On the spots treated by the oxidized pyrogallol, the curative effect was the same; but there was no trace of discoloration, nor of pyrogallic dermatitis.

This property of not irritating the tegument renders this substance particularly valuable in the treatment of erythematic lupus. In this affection, the applications of ordinary pyrogallol, although exercising a powerful therapeutic effect, are dangerous, because they cause an intense inflammatory tumefaction around the cutaneous lesions, accompanied by an edema that favors a relapse, and that may even provoke the extension of the morbid processes. Now, with the oxidized pyrogallol, nothing of this kind need be feared.

The writer has found that oxidized pyrogallol, like the ordinary pyrogallol, possesses the power of deeply penetrating the leprous infiltrations, which it colors black also, while the healthy surrounding skin but slightly and slowly browns—a fact that greatly facilitates the study of the leprous centers.

Oxidized pyrogallol is not at all, or but slightly, toxic. In fact, in the cases in which the writer has employed it in extensive applications that were frequently renewed, he had never observed symptoms of intoxication, nor darkening of the urine. He has also been able to make intraurethral injections of a 0.5-to a 1-per-cent. solution of oxidized pyrogallol, without any inconvenience, in various cases of blennorrhagia, and has even ingested the remedy in the form of keratinized pills, or in lemonade, in doses of 0.05-1 gme. daily, and that during several consecutive months.

Oxidized pyrogallol offers still another advantage, in being compatible with medicaments, such as zinc oxide, sulphur, and lime water, and incompatible with ordinary pyrogallol.

The following, as an example of the combination of medicaments possible, is the formula of an ointment prescribed by the writer in seborrheic eczema, and in pityriasis of the hairy scalp:

Lanolin	10 gme.
Lime Water	10 gme.
Chamomile Water	10 gme.
Ointment Zinc Oxide	10 gme.
Precipitated Sulphur	2 gme.
Oxidized Pyrogallol	0.4 gme.

Serum Therapy

Professor Whitla (*Dublin Med. Jour.*, No. 201) says that there is a natural immunity and an acquired immunity to certain infective diseases. Like facts were known to obtain among animals.

The discovery of Metschnikoff was thought to explain acquired immunity through the phenomena of phagocytosis. This gives way in some minds to the view advanced by Beichner, that this depends upon chemical or unorganized substances or bodies in the blood. Metschnikoff established the fact that phagocytosis is the main defensive means possessed by a body against microscopic foes. Although this new treatment comes directly from the results of Pasteur's work, there is no Pasteurism in the history of this serum therapy, as related by various writers. Pasteur worked along the same line as Jenner. He carried it further. He showed that the introduction of the attenuated virus was not only preventive, but curative. Salmon made the next step, when he showed that an animal could be made immune by the injection of gradually increasing doses of the chemical substance made by the bacilli, without the injection of any living microbes. Behring proved that Pasteurism applied to diphtheria, as well as to anthrax and other diseases. He went still further, and found that the blood serum of the protected animal contained chemical substances. These were developed in process of immunization. These had the power of immunizing another animal if injected into its tissues. This result was found to be true not only in diphtheria, but experiment proved that like results were obtained with other infective microbes. Behring found that the serum was not only preventive, but curative. It was an antidote in those cases where infection with the original microbe existed.

Explanation of these facts brings us into pure speculation. Martin found two poisons. One was precipitated from the diphtheritic membrane, and produces, in a single infinitesimal dose, paralysis and death in the rabbit. This poison is not found in the blood and tissues of one dying from diphtheria. In the blood of these is found another poison, which is an albumose or digested proteid. Injection of this produces all the characteristics of diphtheria. Bacilli grow in the forming membrane. They secrete a ferment. This is absorbed in the body. It produces, through action on proteids, digestive products. The chief one of these belongs to the albumose class and is a poison.

Experiments on animals prove that the antitoxic serum is an antidote to the toxin of diphtheria. The phenomenon of diphtheria in the human subject widely differ from that produced in animals. In animals it is known definitely how much toxin has been absorbed.

It cannot be determined what amount of toxin has been absorbed in man. Hence, the antitoxic dose cannot be regulated.

It is said that if the dose of toxin considerably exceeds the minimum lethal dose, there are no existing antitoxins capable of preventing death. But the element of time enters as a factor. The longer from the time of the taking in of the poison, the less the antitoxic dose required.

All elements considered, epidemics severe, and epidemics mild, show a lessened death-rate following the use of the serum.

Formaldehyd as a Disinfectant

According to the researches of Dr. K. Walter, in *Ber. d. Deut. chem. Gesellsch.* (1896, XXIX, p. 426), as evidenced by numerous tables showing the results obtained, formaldehyd (as well as its vapors), even when in dilution of 1:10000, possesses the power of preventing the development of anthrax, cholera, typhus, diphtheria and staphylococcus pyogenes and aureus germs, and in 1- to 3-per-cent. solution kills these bacteria in an hour at the utmost.

The writer also found that formaldehyd, whether in solution or in gaseous form, serves admirably for disinfection on the large scale. Infected articles may be sterilized by sprinkling with formaldehyd, and subsequently placing in an air-tight chamber for a while. It was also found to be an easy matter to disinfect uniforms, etc., in large leather cases, without the least damage to the articles, by a twenty-four hours' treatment.

Feces were almost instantly deodorized by a 1-per-cent. solution of formaldehyd, and within ten minutes rendered entirely free from living germs.

The writer therefore recommends formaldehyd as an excellent disinfectant, that may advantageously be substituted, under certain conditions, for live steam.

REVIEWS

International Clinics: A Quarterly of Lectures on All Branches of Medicine and Surgery, by Professors and Lecturers in Leading Medical Colleges of the United States and Europe.—Edited by Drs. Judson Daland, Philadelphia; J. M. Bruce, London, England; D. W. Finlay, Aberdeen, Scotland. Volume IV; Series VI. 1897. Pages, 373. Illustrations, 48. Philadelphia: J. B. Lippincott Co.

The volume before us is a fair representation of the preceding series. It presents a large number of lectures on various subjects of medicine and surgery delivered by forty-three specialists.

Several of the contributions are superficially treated. The discussion of granular conjunctivitis, especially its differential diagnosis, is misleading.

The treatment of gonorrheal ophthalmia by hourly instillations of a 2-per-cent. solution of silver nitrate is rather jeopardous.

The illustrations are excellent, the type large and clear, fully sustaining the high reputation of the publishers as book-makers; indeed, the make-up of the book deserves more complete contents.

This volume will be especially welcomed by the physician who is fond of decorating his library with handsome, alike-looking, never-ending volumes.

A Manual of the Practice of Medicine, Prepared Especially for Students.—By A. A. Stevens, A.M., M.D., Lecturer on Terminology and Instructor in Physical Diagnosis in the University of Pennsylvania; Demonstrator of Pathology in the Woman's Medical College of Pennsylvania; Physician to St. Agnes Hospital, to the Outpatient Department of the Episcopal Hospital, and to the Southeastern Dispensary, Philadelphia. Fourth edition, revised and enlarged. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut street; 1896. Price $2.50.

This little book is a model of neatness and conciseness in the selection and arrangement of its contents. As a guide to students it certainly must prove of great service. The larger works on practice overwhelm and stagger them. Here they have an outline scheme that is admirable as a beginning, and that encourages them to undertake its mastery. It is a primer of practice and an epitome of what they are expected to know when they come up for examination. Even after graduation it will prove a good aid to memory by suggestion. Things that are forgotten will be recalled by consulting it, and what it lacks in completeness will be the easier supplied by the guidance it will prove to where and how to hunt for the missing data in larger volumes. There is, of course, some danger of a student using it to cram, but this danger is more in the man than the book. He who is bound to cram will do it anyway, no matter what book he happens to use. In such cases it is better to cram accurately from this than in a distorted manner, as he would be likely to do from a larger volume. Every disease name in the volume is followed by its synonyms, after which come the definition, etiology, pathology, symptoms, diagnosis, prognosis, and treatment.

CORRESPONDENCE

The Cause of Death.

To the Editor of the A. M.-S. BULLETIN:

In the issue of March 25, there appears an extract from the *Med. Examiner* on "The Cause of Death," in which the author, in his effort to criticize the facility and accuracy with which physicians diagnose the cause of sudden death, says: "And when the doctor wishes to be particularly learned (he diagnoses) heart failure;" and then, as if to outwit the physician in his cleverness, he adds: "Could the heart do anything else than fail if the person dies?"

The question seems too puerile for a *medical* man, of all other men, to ask. Surely the heart could do nothing but fail if the person dies; but it is no more truthful that the *heart* fails in death than that *any other* organ of man fails. That is putting the *effect* for the *cause*. The question, in any given case, is not what effect has death produced on the organs, but what was the cause of that death. Did the heart fail because the person died, or did the person die because his heart ceased to act; to perform as it had faithfully done during many a year; to send out the vital fluid which carried life to the uttermost parts of the body and nourished every atom? It does not seem to require a philosopher to decide which it is.

I heard of "heart failure" as cause of death before I read medicine. I heard the term used in my college days, and have read it in medical books and medical literature ever since, even this very day I find it used in an article in the March *Lancet*.

A lady, apparently in the midst of health, drops dead while sitting at the table, in the act of taking a bite of bread. A man in the midst of an earnest address on a subject of national interest, drops dead on the rostrum. A person on receiving the news of the death of a dear relative, drops dead. Another, who is convalescing from an exhausting sickness, rises from bed too early and falls back on his bed, dead.

A person faints upon seeing blood, and recovers with heart stimulants and restoratives. And still others who have heart lesions, but are still in possession of fair health, suddenly drop off upon eating a hearty meal or upon making some over-exertion, or becoming excited from various causes. And so on indefinitely.

In each of these cases what is more probable, so far as we can judge without any autopsy (which is out of the question here), than that the heart stopped to beat before the curtain dropped? Just as the pendulum stops swinging the clockwork stops, or when the piston-rod of an engine stops, the whole machinery stands still? What sage would say the pendulum stopped because the clock stopped, or the piston-rod stopped because the machinery is still?

Why quibble so much on *this* particular term? Do we not have paralysis of the heart as an accepted cause of death? And might the critic not say, with equal truth: Could the heart be otherwise than paralyzed if the person dies? Who could prove that the heart was paralyzed before the individual died? Yet the term goes.

Do we not assign softening of the brain, failure of the kidneys (enuresis), failure of the respiration (asphyxia), as causes of death, and not a question is asked about autopsy? May not the critic with equal consistency inquire: Could the brain do otherwise than soften, the respiration do otherwise than fail, etc., if the person dies?

The term "heart failure" seems as expressive as any we have in medicine, designating the cause of death. It is a generic term, and expresses enough without exacting what is impossible. It does not specify the particular cause of the failure in any case, whether it be from paralysis, rupture, over-distension, or what-not—it is always from causes which could not possibly be known without a "post-mortem." It expresses, however, more than "heart-disease," "pulmonary disease," "epilepsy," "Bright's disease," "hepatic disease," and scores of other terms which are gulped down without a word of criticism.

If the expression "heart failure" is so faulty and inexpressive, let those learned critics give the benighted medical men a less objectionable and more expressive term for the conditions such as have been enumerated above. And let medical writers cease to use this obsolete (?) term in their writings.

Men such as the author of the article in the *Med. Examiner* are eminently suited for positions in health boards; for *there*, more than elsewhere, we find that kind of men who are so very exacting in their requirements that they put physicians to their wit's end. Men who, in the language of the good Book, "Strain at a gnat and swallow a camel."

And it is especially on account of the difficulty which we encounter from this source that I am led to make these remarks.

I believe that in most cases of diagnoses of sudden deaths the physician is prompted more by the requirement of the Board of Health than by the "desire to appear learned."

Let me illustrate with a few instances: In my early practice I was called to see a woman who had suddenly become ill while sitting on a chair in company with the family and friends. She had been put to bed, where I found her unconscious, and where she died in a few minutes, as I stood by the bed. *She* did not speak; and from the others I could ascertain nothing of her history. I signed the certificate "Heart failure," as I believed it was.

The clerk of the County Health Board refused a burial permit on that, and remarked to the undertaker that I may as well say "she died for want of breath," which, of course, was original with him! ! I signed another certificate "Heart-disease." It was accepted.

Now I had no means of knowing if that heart was diseased or not, for I never heard nor felt it working. Yet the probable cause was rejected, and a conjectural cause was accepted. and the record now is no doubt among the table of vital statistics in this State.

A child is born, apparently healthy, but lingers along one or two weeks, failing from day to day, and dies. No symptom nor sign upon which to base a diagnosis is present. The certificate is signed inanition. The clerk of the Health Board refuses a permit. Change the cause of the same death without any new data, to cap.bronchitis, or pneumonia, or convulsions, and it is accepted, and as before goes on file to make table of vital statistics.

Several weeks ago I was called one night to see a man who was "dying." I found him unconscious, lying in his clothes and shoes upon a sofa. He soon got a convulsion. He continued to have convulsions, and never regained consciousness, dying in fifteen hours.

I concluded, from the history I could gather, and his conduct in his last struggle, that he probably had Bright's disease, and these convulsions were uremic convulsions. I had no way of ascertaining if I was right, but felt pretty confident. I signed the certificate "Probably Bright's disease." The clerk of the City Health Board refused a permit on that. I thereupon changed it, substituting "Convulsions," which the worst tyro of a medical man knows means nothing, as convulsions are only symptoms of any one of many diseases, yet this hypercritical officer accepted it and issued a permit upon that statement, and now that case is on record, and will find its place in the table of vital statistics as having died of convulsions. He would not accept a *probable* cause, but accepted one of the *symptoms* of that cause, which is equally the symptom of many other diseases.

No wonder, then, the doctors make positive diagnoses in cases where none but the All-seeing Eye could judge!

When the health boards will have learned to designate the knowable from the unknowable, when they will be more reasonable and less absurd in their demands, when they will be satisfied with the probable truth, and cease to exact positive statements at the sacrifice of truth, in cases where the exact truth cannot be learned. then will the physician no longer "wish to seem learned" and admit the impracticability of making accurate diagnosis in such cases.

Then, too, will tables of vital statistics cease to be packed with falsehoods and approach the probable truth, which is all that can ever be realized on the subject of the causes of death.

J. E. Fopeano, M.D.

Hoboken, N. J.

Nylander's Test

To the Editor of the A. M.-S. Bulletin:

Will you kindly inform one of your subscribers the formula for "Nylander's Test"? You speak of it on page 309 of your last journal, issue of March 25.

T. Griswold Comstock.

8401 Washington ave., St. Louis, Mo.

One part of bismuth subnitrate and sodic potassium tartrate, in the proportion of 2 to 4, is dissolved in sol. sodium hydrate (10 gme. in 90 c.c. water). This is added to 10 parts of urine and boiled. When glucose is present the liquid or the precipitate of phosphates becomes black.—Ed.]

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A Texas legislator has prepared a bill that requires proposed brides and grooms to submit to medical examination, demands an oath from each that their families are free from hereditary taint, and makes it a crime for any county clerk to give a license before satisfying himself that the evidence on these points is properly attested. The health of each must be warranted good or no license can be issued.

The International Sanitary Conference had its final meeting at Venice on March 19, when the protocol or summary of measures agreed upon was signed.

Dr. C. L. Lang, of Meriden, N. Y., gets his calls and receives his reports from distant patients in the country by means of carrier pigeons.

The Allegheny, Pa., Bureau of Health, after thorough trial, has adopted formaldehyd officially for all disinfecting.

Up to March 11 Bombay had 9032 cases of plague, and 7546 of them died.

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EDITOR'S NOTES

It is not often that the lay press attempts a polemic tilt with the editor of a medical journal on a subject of medical interest. The Augusta, Ga., *Chronicle*, on March 18, did so, and partly in defense of the AMERICAN MEDICO-SURGICAL BULLETIN. Some time ago we had among our notes a reference to the statistics of suicides among medical men, in which we suggested a number of possible explanations for the fact that more doctors kill themselves than men of any other profession. Our able and interesting contemporary the *Medical and Surgical Reporter*, rejected all our possible hypotheses on the matter and substituted one of its own. It held that suicides are usually impulsive acts, and as the doctor always has the means at hand of executing such an impulse, this was deemed the proper explanation. The *Chronicle*, however, is not satisfied, and wants the *Reporter* to tell it why druggists, men working on high buildings, dynamite makers, poison makers and others, who also have the means of death always at hand, do not imitate the doctors. The claim of the *Reporter*, that the practice of medicine creates the impulse for taking life, is characterized by the *Chronicle* as a pessimistic view, "probably growing out of a fit of indigestion on the part of the editor of the *Medical and Surgical Reporter*." The closing words of the *Chronicle* are interesting, in that they show us how intelligent laymen view our profession. It says:

> "From the standpoint of a layman there seems to be much in the life of a physician to make him cherish it. True he sees much suffering and serious illness, but what a thrill of gratification there must be in leading a fellow man back from the jaws of death into vigorous health and strength The giving of happiness to others should make the physician's life full of joy and thanksgiving."

The coming meeting of the British Medical Association at Montreal, from Aug. 30 to Sept. 4, promises to be an enjoyable affair to all who attend. American physicians must not forget that it is, however, entirely a family affair, in which we of the States are to take no active part. More than a hint to this effect has already been given. A few prominent medical men from our country are to be invited guests, but all others are expected to keep away. One of the public addresses will be made by a Parisian doctor as a compliment to the French-Canadians. The membership of the Association is said to be 19000.

Western medical men who intend visiting Philadelphia during the semi-centennial of the American Medical Association, have now a choice of two special trains. The "Journal Special" will leave Chicago by the Pennsylvania Railroad on Sunday, May 30. The rates for members with certificates will be one and one-third fare for the round trip. Arrangements have been made for a special train which will be known as the "Medical Buckeye Flyer," which will be made up of Pullman palace cars for the accommodation of those who cannot conveniently reach the "Journal Special" on account of circumstances or the locality in which they live. This train will go via Columbus, O., where it will be joined by many of the military surgeons, who hold their annual meeting in that city just prior to the meeting of the American Medical Association. It will be a through train, without change of cars, to Philadelphia, over a route both picturesque and historic. Reduced rates will be made, and the best of accommodations provided, care being taken in regard to the comfort of the passengers in avoiding overcrowding of cars. Stopover privileges at Washington have been arranged without extra charge. Those who desire to take this train will please notify Dr. R. Harvey Reed, Columbus, O.

NEWS

During one week of February there were reported 240 deaths in Havana from smallpox and yellow fever.

The attempts to suppress the fury of expectoration in cultured Boston seem to be resulting in ridiculous failure.

The Springfield, Mass., *Republican* is wisely and properly castigating Mayor Dickinson, of that city, for vetoing an anti-spitting bill.

Our esteemed contemporary, the *Columbus Medical Journal*, has lately removed from 150 East Broad street, to 68 Buttles avenue, Columbus, O.

Minneapolis is having an epidemic of typhoid fever. The Health Commissioner claims that many of the cases are only grippe simulating typhoid.

The William Pepper Medical Society of Philadelphia celebrated the thirty-third anniversary of Dr. Pepper's graduation by a reception at his residence.

It is estimated that 10000 lodging-house inmates were vaccinated by the officers of the New York Board of Health on the evening of March 15.

A Chicago doctor who tried to get a skiagraph of a bullet in a negro named Mallett has been sued for $10000 damages because of the resulting dermatitis.

The Philadelphia Board of Health has offered the services of its laboratory to the physicians of that city in diagnosing or confirming the diagnosis of typhoid fever.

Prof. Nicholas Senn has cabled to Berlin for Prof. Du Bois Reymond's physiological library of 14000 volumes, which he presents to the Newberry Library, of Chicago.

The Woman's Medical College of the New York Infirmary has lately received two legacies of $25000 and of $30000 toward a fund for securing them a $250000 college building.

At a late conference of Maryland health officers Dr. Osler suggested the organizing of health societies in every county for the purpose of educating the public in true sanitation.

The Seventh Day Adventists are going to convert their college in Battle Creek, Mich., into a Medical College for the training and graduating in medicine of all their missionaries.

The Wilkinsburg Medical Club is endeavoring to stop the free distribution of patent medicine samples. They claim that several cases of poisoning have resulted from this practice.

On February 19 Mr. Kem introduced a bill to Congress in behalf of quackery, the object of which was claimed to be "to restore medical freedom to the people of the District of Columbia."

Dr. Ira Van Gieson, of the Pathological Laboratory of the New York State Hospital for the Insane, is advocating the doctrine that insanity is due to toxic substances in the cerebral circulation.

The health authorities in Mexico are having trouble with smallpox. The ignorant will not submit to vaccination, because they believe it to be a device of man to circumvent the will of Providence.

The Philadelphia Polyclinic Hospital has placed a private room at the disposal of the Mutual Aid Association, free of charge to any needy physician whom they may name as needing care and treatment.

Bellevue Hospital Medical College of New York has just graduated 133 students out of a class of 160, and the Michigan College of Medicine and Surgery of Detroit graduated 47, two of whom were ladies.

Philadelphia doctors are thought by some politicians of that city to be hypercritical because they object to the building of a new hospital in a swamp estimated to be worth $80000, but for which $200000 is asked.

On Monday, March 29, one hundred and fifty medical inspectors began their duties in looking after the health of the children of the public schools of New York city. One of the inspectors is a colored man.

Dr. John B. Hamilton has been appointed superintendent of the Elgin, Ill., insane asylum. He will probably make his home at Chicago, and continue to care for the interests of the *Journal of the American Medical Association.*

A late investigation of Philadelphia's water supply shows that it comes from streams in which Italians bathe and wash their clothes. In other parts there are dumps for filth on the banks and outhouses directly over the stream.

The International Sanitary Conference that met in Venice last month held that the greatest danger to Europe from the plague was through Turkey and the semi-barbarous countries of the East. Turkey has no system of national sanitation.

Professor Loeffler, of Griefswold, and Dr. Frosch, of the Koch Institute, have been commissioned by the German Government to investigate the so-called foot and mouth disease of cattle. The appropriation for the work is 20000 marks ($4760).

After passing a fairly good medical law a short time ago Michigan is likely to take a sudden step backward. The Senate Committee of Public

Health has reported favorably on a bill permitting the osteopaths to go ahead and practice without examination.

The Nebraska legislators are trying to have committees from each school of medicine to examine their own applicants for medical licenses in that State. Every applicant is expected to supply evidence that he graduated from a college that demanded four years' study.

The Board of Managers of the Missouri State Lunatic Asylum at Fulton, Mo., have sent out a circular letter to the medical men of that State protesting against the action of the governor in putting that institution into the hands of the Homeopaths. They want every one receiving the circular to use his influence with the legislature to get the governor's decision changed.

Emperor William, of Germany, while on a hunting expedition, came across a camp of lepers that had been driven from their homes. On addressing the Governor of the Province concerning such cruelty, he learned that there was no law in Germany dealing with lepers or leprosy. The Emperor now proposes to have an asylum for them and to have proper laws framed for their care and protection.

The Pathological Society of Philadelphia will hold its annual meeting in the upper hall of the College of Physicians and Surgeons, corner Thirteenth and Locust streets, on April 22, at 8:15 p.m. Professor Hektoen, of Rush Medical College, will address them on "Segmentation and Fragmentation of the Myocardium." After the meeting a reception will be given Dr. Hektoen at the University Club, 1316 Walnut street.

Bogus diploma Rutland has been the indirect means of helping Idaho to a good medical examination law. Representative Rogers ran it through with a rush at the very time that its fate seemed to hang in the balance. He exhibited to his astonished brother legislators a "diplomy," which he had received from Chicago, making him an M.D. for $35. His letter to Rutland was prepared with the utmost care, to make it appear as coming from an extremely ignorant man. This and the reply were part of the exhibit. Mr. Rogers is a good lawyer. His fellow legislators, when voting, remarked that they wished to be protected from the practice of "Dr." Rogers. The vote stood almost two to one in favor of the bill.

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OBITUARY

Dr. F. W. Bartlett, in Buffalo, N. Y., March 17. In 1884 he was president of the Buffalo Medical and Surgical Association, and president of the Buffalo Physicians' Association. He also served as trustee of the Academy of Medicine, president of the Erie County Medical Society, consulting physician to the Harbor Provident Mission, and consulting physician to the Buffalo Hospital of the Sisters of Charity. He was an original Fellow of the New York State Medical Association.

Dr. J. T. Streves, in St. Johns, N. B., March 3. He was an honorary member of the American Medical Association, the first president of the New Brunswick Medical Society, and had held the position of president of the New Brunswick Medical Council and superintendent of the New Brunswick Lunatic Asylum. He began practice in Portland, Me., forty-three years ago.

Dr. Clark Wright, in New York City, March 16. He was a Fellow of the New York County Medical Association, and was connected with the Vanderbilt Clinic.

Dr. Edward J. Price, in Rochester, N. Y., on Sunday, March 7, in the thirty-second year of his age.

Dr. Felix A. Sylvester, in Houma, La., on Friday, March 5, in the fifty-second year of his age.

Dr. Peter Randolph, in Lakeland, La., on Wednesday, March 3, 1897, aged 67 years.

Dr. George A. Sterling, in Southampton, N. Y., on Tuesday, March 9, aged 55 years.

Dr. Luther A. Martin, in Golden, Ill., on Saturday, March 6.

NATIONAL MEDICAL SOCIETIES

Annual Meetings

NAME OF SOCIETY	PLACE	TIME	SECRETARY	RESIDENCE
American Academy of Medicine	Philadelphia, Pa.	May 29-31	Dr. C. McIntyre	Easton, Pa.
American Academy of Railway Surgeons	Chicago, Ill.	Sept.	Dr. D. C. Bryant	Omaha, Neb.
American Assoc. Genito-Urinary Surgeons	Washington, D. C.	May 4-6	Dr. W. K. Otis	New York City.
American Assoc. Obstetrics and Gyn.	Niagara Falls, N. Y.	Aug. 17-20	Dr. W. W. Potter	Buffalo, N. Y.
American Climatological Association.	Washington, D. C.	May 4-6	Dr. G. Hinsdale	Philadelphia, Pa.
American Dermatological Association	Washington, D. C.	May 4-6	Dr. J. T. Bowen	Boston, Mass.
American Electro-Therapeutical Assoc.	Harrisburgh, Pa.	Sept. 21-23	Dr. M. Einhorn	New York City.
American Gynecological Society	Washington, D. C.	May 25	Dr. J. Riddle Goffe	New York City.
American Laryngological Association	Washington, D. C.	May 3-7	Dr. H. L. Swain	New Haven, Conn.
American Laryngological, etc., Society	Washington, D. C.	Apr. 30, May 1	Dr. R. C. Myles	New York City.
American Medical Association	Philadelphia, Pa.	June 1-4.	Dr. W. B. Atkinson	Philadelphia, Pa.
American Neurological Association	Washington, D. C.	May 4-6	Dr. G. M. Hammond	New York City.
American Ophthalmological Society	Washington, D. C.	May 4-6	Dr. S. B. St. John	Hartford, Conn.
American Orthopedic Association	Washington, D. C.	May 18-21	Dr. J. Ridlon	Chicago, Ill.
American Otological Society	Washington, D. C.	May 4	Dr. J. J. B. Vermyne	NewBedford, Mass.
American Pediatric Society	Washington, D. C.	May 4-6	Dr. F. A. Packard	Philadelphia, Pa.
American Physiological Society	Washington, D. C.	May 4-6	Dr. W. H. Howell	Baltimore, Md.
American Public Health Association	Philadelphia, Pa.	Sept	Dr. I. A. Watson	Concord, N. H.
American Surgical Association	Washington, D. C.	May 4-6	Dr. M. H. Richardson	Boston, Mass.
Army and Navy Medical Association	East St. Louis, Ill.	May 18	Dr. E. P. Bartlett	Springfield, Ill.
Association of American Anatomists	Washington, D. C.	May 4-7	Dr. D. S. Lamb	Washington, D. C.
Association of American Physicians.	Washington, D. C.	May 4-6	Dr. H. Hun	Albany, N. Y.
Association of Military Surgeons of U. S.	Columbus, O.	May 25-27	Dr. H. Burgin	Philadelphia, Pa.
Canadian Medical Association	Montreal	Aug	Dr. F. N. G. Starr	Toronto.
Mississippi Valley Medical Association.	St. Paul, Minn.	Oct. 19-22	Dr. H. W. Loeb	St. Louis, Mo.
National Association of Railway Surgeons	Chicago, Ill.	May 4-6	Dr. C. D. Wescott	Chicago, Ill.
Southern Surgical and Gynec. Assoc.	Nashville, Tenn.	Nov. 10	Dr. W. E. B. Davis	Birmingham, Ala.
Western Surgical and Gynec. Assoc'n	Denver, Col.	Dec. 28-29	Dr. H. E. Pearse	Kansas City, Mo.

PUBLISHERS' DEPARTMENT

THE CARNOGEN PRIZE

The American Therapeutic Company has determined to stimulate real scientific interest in their preparation, Carnogen, a mixture of red marrow of calves' ribs, bullocks' blood, and glycerin. A valuable prize, consisting of the necessary instruments for blood research, has been offered for the best clinical report of cases at any one hospital treated with Carnogen. This preparation has already received much flattering attention, and the offer of so interesting a prize will certainly encourage further research.

PECK'S EAR DRUMS

The following is from the *Surgical Record:* "A lecturer in one of our hospitals, while illustrating progress in medical science, introduced a deaf patient whose case baffled medical skill and was considered hopeless, but an invention belonging to F. Hiscox, 853 Broadway, New York, having been recommended, it was used with very satisfactory results, as it fully restored the hearing. It was tested in other cases and found to be more successful than any known device for the relief of deafness, as hearing lost for many years was restored by it. It can be readily removed or inserted by the patients themselves, and it is withal curative in action and comfortable to wear."

MEMBRANOUS CROUP TREATED WITH ANTITOXIN

The following letter appeared in a recent issue of the *Boston Medical and Surgical Journal:*

Windsor, Vt., January 28, 1897.

H. K. MULFORD CO.:

DEAR SIRS—I take great pleasure in reporting to you the splendid results obtained from the use of your "Extra-Potent" Antitoxin.

December 26, 1896, I was called to see two children with membranous croup. I had no antitoxin on hand; and it being Saturday noon, I could not get it for twenty-four hours. When I secured some of Metcalf's "Behring's" which I used at once, but too late, for the children soon died (January 1).

Another child was taken sick in the same way. I had by this time secured six bottles of your product. I immediately gave 1000 units; and in twelve hours, from having a child laboring for every breath, it was breathing comparatively easy. I gave the other 1000 units, had no further trouble. The child was entirely well in thirty-six hours, and never showed any after effect from the medicine. I gave no other remedy, only kept up a good diet.

The mother had mild diphtheria, and used no antitoxin; she had a little membrane for five or six days. (Compare with later case).

January 11 I was called to see a child two years old, in no way connected with the other cases. The breathing was harsh and labored. I immediately gave 1000 units of "Extra-Potent" Mulford's. In twelve hours all symptoms were gone, child lively and apparently well.

The mother was taken on January 13 with severe sore throat, with membrane. I gave the mother 1000 units, and in twelve hours she was well.

Now, when we can control this fearful disease, membranous croup, as easily as this, it is a pleasure to give the experience of others who may be doubting. Had I known what I do now, two lives would have been saved.

I would not be without a bottle of Mulford's Antitoxin twelve hours under any consideration. I have spent days over cases of croup, with steam-atomizer, lime and continued hard work, and finally been unsuccessful.

I can hardly realize yet that by a single injection *early* we can leave the child safe and sure of early recovery. Very sincerely,

DR. J. D. BREWSTER.

UNGUENTINE

A prominent Kentucky physician writes to the Norwich Pharmacal Company as follows:—"Gentlemen—Unguentine has been given a place on my office medicine shelf. I care for nothing more effectual in all conditions indicating its use, such as ulcers, fresh burns, contused wounds, etc.—Very respectfully yours,

"PATTON GRIFFITHS,
"Division Surgeon of the Louisville, New Albany & Chicago R.R."

A EUROPEAN INDORSEMENT

Health, a weekly journal of medicine and surgery, diet and sanitary science, London, Eng., says editorially: "We have received from the Antikamnia Chemical Company, St. Louis, Mo., U. S. A., a brochure dealing with the action, history, indications and administrations of their preparation, antikamnia. There is no remedy so useful and attended with such satisfactory results in the treatment of melancholia with vaso-motor disturbances, anemic headaches, emotional distress, and active delusions of apprehension and distrust; and it also increases the appetite and arterial tension, and promotes digestion, as well as being particularly serviceable in relieving the persistent headache which accompanies nervousness.

"In neurasthenia, in mild hysteroid affections, in the various neuralgias, particularly ovarian, and in the nervous tremor often seen in confirmed drunkards, it is of peculiar service. In angina pectoris this drug has a beneficial action: it relieves the pain and distress in many cases, even when amyl nitrite and nitro-glycerin have failed entirely. In pseudo-angina frequently observed in hysterical women, its action is all that can be desired.

"To patients who suffer from irritable or weak heart, needing at times a pain reliever, it can be taken without untoward after-effects, knowing that the heart is being fortified. It increases the elimination of urea and purifies the blood without increasing the destructive tissue metamorphosis. It lessens coma and loud delirium by contracting the capillaries of the brain. In delirium tremens, it relieves when there is great restlessness with insomnia, as well as general lowering of the nervous power."

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Health Commissioner Emery officially reports to the Mayor of Brooklyn that all the sewage from about twenty dwellings, as many nuisances, fourteen stables, fifteen sheds and several chicken pens and hog pens finds its way "directly into the Springfield feeder by means of drains or indirectly into it over the surface." This is eventually largely diffused through Brooklyn's water mains.

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EDITORIAL

CHECKING PROMISCUOUS MEDICAL CHARITY

THE abuse of medical charity is now culminating in active co-operative opposition. In several States efforts are being made to get laws passed regulating the bestowal of such charity. In New York city, a society has been formed for "Advancing the Practice of Medicine," the first aggressive act of which appears to be the production of a bill now before the Assembly at Albany, that if made into a law will work some marked changes in the dispensary management. Except in cases of emergency, none but the very poor are to receive treatment in such institutions, and everything, including medicines and appliances, must be free. A dispensary must not be conducted in a drug-store or tenement-house. Everyone seeking free medical treatment must show a certificate from his or her landlord, alderman, district police captain, or the manager of some charity organization, asserting that the applicant is too poor to pay a doctor. Falsely obtaining and using such a certificate, or signing one when the patient is known to be able to pay for medical treatment, will be a misdemeanor. A commission composed of representatives of the various medical societies of the city of New York, is to be empowered to see that the act is properly enforced. Violations are to be punishable with fine, imprisonment, or both, and those receiving medical charity unworthily must pay for the same, or have their property sold upon judgment therefor. Should this bill become a law in its present form, it is likely to be patterned after by other cities and States. Though we sincerely sympathize with the object it has in view, it does not seem to be the proper way to go about obtaining redress from present evils. "Red tape" and charity do not go well together. While hunting for certificates proving poverty, many a patient would die before receiving needed treatment. The most worthy, even under present conditions, hesitate a long time before applying for relief. If they had to go begging for certificates, and were compelled to expose their poverty in so public a manner, they would prefer death to such charity. The degradation attached to exposure of this kind would tend to blot out the last spark of self-esteem a man or woman might have, and create so great a gulf between them and future respectability that they would be apt to remain permanent paupers. To have such a law on the statute-books, and not enforce it, would be but another means of creating public disregard for and contempt of law. Unless strictly enforced, it would stand as a constant menace against the dispensaries, only to be used by the spiteful to satisfy grudges and do mischief. To enforce it with strictness would be to destroy every useful feature of dispensary treatment. Better by far have no organized charity than to direct and control it in a way that can only result in harm. As now conducted, medical students and young practitioners secure some little experience therein, even when they are only spectators of what is done by others. Under such a law as that we are considering, the number of cases would be so materially reduced that opportunities for study would be much less than now. Those who support the bill may be laboring under the impression that every case driven from the dispensary would be a case driven to some doctor's office. We believe such an inference to be decidedly erroneous. Probably half, and perhaps more, of the present dispensary work would never reach a doctor's office if every dispensary in the land should be closed. A great part of the work that reaches the dispensary physician is a distinct gain to science. If let go adrift, it would return to superstitious rites, charms, appliances, domestic remedies, patent medicines, drug-store treatment, and the like. There are multitudes of people that never would try scientific treatment if it cost them cash. They are only willing to give it a trial because it costs nothing. Once the habit is fixed upon such people, of depending upon regular physicians when injured or diseased, they are likely in extreme cases to call such physicians to their aid rather than quacks. Whichever side we view this proposed law from, we find it defective and likely to harm instead of benefit the community.

A MORE EXCELLENT WAY

THE remedy for promiscuous medical charity does not lie in restrictive legislation placed upon the public. The exciting cause of the evil is among medical men themselves. The predisposing cause is too deeply seated ever to be overcome by any man-made law. It might be pent up for a time, only to break out again with augmented vigor, and thereby bring law, itself, into disgrace by its non-efficiency. A candid analysis of the case will show a too-willing public, with lax moral instincts, anxious to get all they can out of others, regardless of justice. The sturdy, self-asserting manhood that spurns alms, and that asks and demands equivalents, present or prospective, in every transaction, is lacking. The pauper feeling that makes them rather enjoy being beggars, is a growing one. Familiarity with over-lavish pseudo-charity is, in a great measure, responsible therefor. It is a distinctly un-American trait, yet it is being adopted by some Americans. The feeling that nothing is worth any more than is paid for it—that some people entertain—is at present the only corrective. The cheapening of doctors goes on *pari passu* with the pauperizing of the community. When we discover the part that medical men play in the affair, we can scarcely, with consistency, attach much blame to the patients. The doctors are, without doubt, the worst sinners. The whole trouble was precipitated upon us by covert advertising. Remove this cause and the effect will disappear. Elevate the standard of professional honor, by making it a disgrace to use a dispensary or hospital as a direct, or indirect, means of advertising, and the evils we complain of will disappear. Serve this form exactly as we do newspaper advertising, and thereby put all regular medical men upon a common basis of opportunity, and the trouble will cease. The injustice and evil of the affair mainly exist in the fact that a few men manipulate these institutions to benefit themselves at the expense of their fellow practitioners. It is to their personal interest to encourage an abuse of charity. It brings more dollars to their coffers when well-to-do people come to the clinics than when the very poor are there. The former bring them into paying practice; the latter do not. If all medical attendants in dispensaries and hospitals were only known to the public by a number, the giving of cards or written addresses forbidden, and the wearing of a uniform while on duty there made obligatory, it would be a very easy matter to regulate medical charity in a way that would make it a blessed boon to the whole human race. A regulation of this kind would drive out every doctor who is only in such an institution for the practice it brings. We have but little hope, however, of so desirable a reformation coming very soon. A good hospital or dispensary position is too valuable an acquisition to be given up lightly. Those who hold such places, together with those who hope soon to gain similar ones, will resist such a reform with all their might. A first step in the right direction might be made if medical societies could gain control, limit the time of service in every such institution to one or two years, and have all their members who wish, take turns in doing such work. This would be fair and just, so far as opportunity for experience and building up a practice goes, but it would not lessen the evil of promiscuous charity. No proper reformation is possible short of a regulation that absolutely abolishes advertising. When this is stopped, all dispensary and hospital positions will be filled by men who seek experience, knowledge, and a chance to do true deeds of charity. No one else will apply for them. Once have such positions filled with men of this kind, and every dispensary and hospital in the United States would be converted into laboratories of science, where by concerted action, all would unite their now wasted results for the advancement of medicine. Under such conditions, every patient would become an object of interest to our whole medical profession. Rival remedies that are now used indiscriminately could be tested thoroughly on hundreds or thousands of cases, so as to ascertain which gives the best results under nearly identical conditions. Exceptional results now attributed to idiosyncrasy could be studied and the causes of such exceptions discovered. Patients now die under our best-known methods, and, usually, no one knows why. In the hands of men seeking knowledge for the sake of knowledge, the causes of such exceptions would in time be discovered. Polypharmacy, as at present so commonly practiced, would in such hands, having such opportunities, come in for comparative study with single remedies. It is certainly worth knowing whether or not mixtures of drugs are better or worse than single remedies in the treatment of special diseases. There is work enough for such men for several generations to come in this field, without deviating in the least from trials on well-known, commonly used remedies. This being the case, there is no reason why the patients should not be honestly told that they are paying for the service rendered them by their becoming objects of experimentation. Indeed, intelligent patients would, themselves, take an interest in the tests. Nothing more would be done to them in the dispensary or hospital than would be likely to happen in a doctor's office, where they would have a fee to pay. In the surgical departments, the same would be true of appliances, operations, and the like. Medical students should also be guaranteed the privilege of learning methods of diagnosis, etc., on such patients as could not be harmed thereby. In this way the pauperizing tendency of free treatment would be completely checked, and those able to pay would stay away. As it is now, the belief is being fostered that better treatment is had in the dispensary than in the average doctor's office. This, more than anything else, makes many of those that are able to pay go there. When such people learn that the dispensaries and hospitals are only trying to discover what is the best treatment by experimenting upon them, they will stay away. Sooner or later we must come to this truthful, honest state. Until we do, every effort at reform will prove abortive. In truth and justice alone can the cure for such public ills be found. True charity is never at war with these, and in the present instance cannot appear until they are enthroned.

There is no charity in giving away service that is paid for by advertising. There is no charity in degrading the public conscience in a wholesale manner. There is no charity in robbing one's fellow practitioners by catching their patients with the bait of free treatment. There is no charity in working into a practice under the hypocritical garb of pretended philanthropy. There is no charity in holding on to dispensary and hospital positions needed as a means of experience by young graduates. There is no charity in treating the very poor with scant consideration and at the same time being kind and deferential to free patients whose appearances indicate that at a later date fees can be exacted from them. There is no charity in seeking for place and applause by the work done in a dispensary. There is no charity in refusing to inform patients when experiments are being performed upon them. All such pretended charity is humbuggery and crime.

THE REFRACTIONISTS' BILL

THE general public and the majority of legislators seem to have no adequate conception of what constitutes the science of law. Every faddist who comes along with a bill can get some assemblyman or senator to father it for him, whether it possesses merit or not. They all seem to work on the principle that laws can be manufactured, and that there are no fundamental natural conditions on which they should be based. It seems a difficult task to get the fact into their heads that every bill which passes a legislative body, and that does not agree exactly with natural social balances, is a curse to the whole community. Unless laws are in the nature of discoveries, or unless they accidentally happen to be perfect adaptations to the nature of things, they are sure to become cumulative evils, that will bring pain, sorrow, and suffering in their wake. Such laws are always a curse until repealed. Their passage is really of the character of a crime. Acts of special legislation, favoring certain classes of the community, are social maladjustments, except in such cases as they protect life and health where seriously menaced. At the present time, the New York State lawmakers at Albany have a bill before them that is in every particular pure class-legislation. The claim that it is a measure calculated to protect public health is without foundation in fact. If successfully carried through in one State, it is quite likely to be tried in others, so that its fate is really of national importance. It is known as Assembly Bill 459840. Its advocates are manufacturers and sellers of spectacles, who, not content with the title optician, have at various times called themselves "professors" and "refractionists," but now wish to be licensed as "'optometrists." A year ago they tried to have a similar bill passed, but failed. Now they hope to meet with better success. The very best opticians of the State are arrayed in opposition to the measure, as useless and mischievous. They have never called themselves "professors," and do not now wish to be known as "optometrists." If druggists should try to get a law passed permitting them to prescribe all drugs they carry in stock, and granting doctors that are now in practice the same privilege, but forbidding coming medical men this right until they had passed a board of pharmacy examination, their action would be of a piece with that of this small coterie of opticians. The attempt to get such a bill passed is an outrage on common sense. What do these opticians know about the pathology, physiology, or treatment of the eye? Some of the work they now do is neither more nor less than malpractice, and yet we doubt whether they know enough to appreciate this fact. If the State should bestow licenses upon these men, it would simply be aiding them, in many instances, to damage the eyes of their patrons. It is by no means an uncommon thing for oculists to be called upon to correct their grave mistakes. Take cases in which hyperopia produces converging strabismus associated with amblyopia. An eye with spasm will not accept the glass that corrects the amount of error present, because of the derangement of the ciliary muscle counteracting some of this error. This is particularly true in childhood. Let such a child go to an optician, and the latter will be pretty certain to dispense the glass which the former accepts as the best to see with. Such a glass will not cure the squint and may give rise to reflex disturbances. Young people compelled to use their eyes for near work, for long periods of time, are usually supplied with near-sighted glasses by opticians, when they should, in fact, be supplied with far-sighted ones, because the accommodation hides the error that needs correcting. Patients suffering from spasm of accommodation will generally be satisfied with near-sighted glasses for a short period of time, but the wearing of such a glass will invariably give rise to such marked asthenopic symptoms as headache, reflex disturbances of the stomach, pain in and around the eye-balls, and photophobia. Opticians generally do not use the ophthalmoscope, but even where they do, they cannot appreciate the condition of the fundus, and are not therefore able intelligently to prescribe the glasses which they make or sell. Take, for instance, the condition of the fundus in myopia, where there is a stretching of the optic nerve, with an extensive crescent and pigment deposits—changes which are due to atrophic degeneration. In such conditions the patient will naturally, of his own option, select a stronger glass than he requires. The optician will give it to him in preference to any other, because he will see more letters with it during the trial. A glass of this kind on such a patient is very apt to give rise to conjunctivitis, headache, vertigo, and at the same time aggravate the original diseased condition for which it was intended as an aid. Patients constantly come to ophthalmologists, wearing glasses adapted to myopia, while they suffer from antimetropia, or anisometropia. This is because opticians cannot correctly diagnose these conditions. In incipient cataract, patients go from optician to optician, and each supplies them with new glasses, thus maintaining a false hope of cure from such treatment. An ophthalmologist would diagnose the trouble at once, explain to the patient that glasses are useless, but that when the proper time comes, an operation will restore sight. If opticians were licensed, there would be some danger of such patients trusting too much, and not wisely, to their treatment, neglecting to consult a physician at all, and thus go through the rest of life blind. In glaucoma, the intra-ocular pressure varies from time to time, and, naturally, with this variation refraction varies correspondingly. Because of this spectacles worn one day may not fit the next. The patient is often persuaded to change his glasses as a result. Give such a one confidence in the diagnostic skill of an optician, because of a license, and the ophthalmic surgeon will not be consulted at all. In cases of this kind, the surgeon would, most likely, perform an iridectomy and ameliorate the patient's condition. Without the operation, he might go blind by neglect. It is a common thing for patients to come to an ophthalmologist with a pocketful of spectacles that opticians have prescribed for a pain in the eye, that was supposed to be due to some defect of vision. The medical man soon discovers that the cause of the suffering is a supraorbital neuralgia, due, perhaps, to malaria, and which a dose of quinine will relieve. License the opticians, and the confidence inspired will tend to keep such sufferers the longer from visiting the doctor. The bill under consideration provides for the privilege of using mydriatic alkaloids. As these men know nothing of medicine, nor toxicology, where is the safety in permitting them to administer such powerful drugs? Some children possess a special idiosyncrasy to such drugs. Should they poison such a child, how would they know what to do to save its life? By the time a physician could be summoned, death would be pretty certain to have occurred. Every ophthalmologist knows of the disastrous effects of atropine on an eye afflicted with glaucoma. Could these opticians diagnose glaucoma in advance of such disaster, and so avoid it? We fear not. Sometimes such cases puzzle the best medical authorities. This bill should not pass.

AMONG THE EDITORS

THEN AND NOW

Within fifty years wonderful changes in conditions of practice have transpired. To illustrate: Fifty years ago but a very small percentage of practicing physicians wrote prescriptions, there were no specialists in medicine, three to six chairs constituted a medical college faculty, many practitioners had never entered a medical college. Because of these general conditions medicine as a profession was at a very low ebb, and the organization of the American Medical Association was for the express purpose of placing professional education upon a higher plane.

To this there arose an antagonism which has existed ever since, and is to be found at this very time, but to a limited extent; while within the ranks of educated physicians pessimists are to be found, and ever will be.

Since fifty years ago there has been created a practically new education in medicine. Then there was not a single State with any law upon the subject of requirements for practice; now nearly every State has a more or less stringent law, and there is not more than one which does not require a legal registration of its practitioners.

Singularly enough, Ohio was one of the last to enact a medical law of registration and examination, and this only went into effect about eight months ago, since which time the State Board has required the registration of the qualified practitioners of the State.—*Cincinnati Lancet-Clinic.*

NATIONAL PUBLIC SANATORIUMS FOR CONSUMPTIVES

On previous occasions we have expressed the opinion that the establishment of public sanatoriums for the treatment of poor consumptives would be a great help in the attempt to combat the spread of consumption. The exact course for boards of health to pursue in attempting to reduce the ravages of this disease is by no means a settled question. The disadvantages of uncautious procedures, such as might be calculated to unnecessarily alarm the patients, have been discussed on several occasions in our editorial columns. That by measures based on an understanding between family physicians and the Health Board, some good may be accomplished in reducing the frequency of consumption, cannot be denied, provided, always, that such measures do not alarm the patient.

The idea that consumption is incurable is deeply rooted in the public mind; hence the ill effect of making consumptives acquainted with the nature of their affliction. The erection of public sanatoriums where consumptives only would be treated by a corps of well-trained physicians and nurses would soon demonstrate the fallacy of this popular belief. It is the undue reliance of patients upon medicine and the neglect of strictly obeying the hygienic measures prescribed by their medical advisers which is the main stumbling-block to the successful treatment of many cases of consumption.

Such sanatoriums would not necessarily have to be exclusively for the extremely poor. Provision could be made for those who would be able to pay a moderate charge and those that would be absolutely unable to contribute to the maintenance of such institutions. The advantage of such an undertaking would be that the working classes would have a better chance to be adequately treated in the incipiency of the disease while at present they work until they can no longer; when they become inmates of public general hospitals without a chance of recovery, and a menace to other patients of the hospital as far as the communicability of the disease is concerned.—*Med. Rev.*

ANTIVIVISECTIONIST TACTICS

The Antivivisectionists' Society is at present using most unscrupulous methods to lead the public astray on the question of vivisection. From personal experience we know that this is the case and that a large number of well-meaning but thoughtless individuals are at present carrying about petitions which they can certainly not understand and which are calculated to do an immense amount of harm among those who have no opportunity of knowing that much of what is stated in these petitions is absolutely false and much intentionally misleading. These petitions are carried to every drawing-room meeting, and to church meetings of all kinds, and a number of signatures have been obtained, especially from people who do not take the trouble to inquire into these matters for themselves. As our correspondent points out, Sir Spencer Wells, a man who is said to have relieved an enormous amount of suffering among women, could not have obtained the results he did had he been so foolishly sentimental as to put the lives of a few animals against the number of lives he has been able to save and the amount of suffering he has succeeded in alleviating. Even those who have followed him, although they have done no animal experiments themselves, must recognize their indebtedness indirectly to the earlier experiments on animals. Unfortunately there are always a large number of people who are easily influenced by specious statements and plausible arguments, especially when they come from people who apparently speak with authority, but we should like all who are asked to sign this petition to insist upon a definite answer to the following question: Could the antitoxic treatment of diphtheria have been evolved and could it be carried on without experiments being made on animals? Having got an answer to this question we should like them to ask the following: Is it true or is it not that there has been a great diminution in the percentage-mortality of diphtheria—representing last year in the Metropolitan Asylums Board Hospitals alone a saving of 250 lives and an enormous amount of suffering to the children of those to whom this unscrupulous circular is addressed; while in a certain class of case—that following scarlet fever—the death-rate has been reduced from over 60 in a 100 to less than one-tenth of the original mortality? When these questions are satisfactorily answered people may begin to consider whether they will sign these petitions or not, but until then all who have children of their own will be wise to withhold their support from a movement which is kept alive by faddists, many of whom do not object to taking animal life or the infliction of animal suffering where their own selfish interests and pleasures are concerned. We are perfectly willing to discuss this matter with those who are consistent throughout, but for most of those engaged in this so-called crusade we hope that honest people can have little but contempt; indeed, if their methods were not so persistent and so unfair most people would wish to forget them as soon as possible.—*The Lancet.*

PROFESSIONAL EXCLUSIVENESS IN ITALY

Italy, if unwise counsels prevail, is about to forfeit an honorable distinction. Hitherto she has extended to the English-speaking representatives of the profession a hospitality denied to them by other Continental powers—notably by Switzerland and France. In our articles on "The Legality of British Qualifications Abroad" we were able to report (not without admiration for Italy) that "the restrictions ruling in Switzerland and shortly to be enforced in France do not exist in the Italian kingdom." Now, it seems, Italy, or a part of the profession within her borders, is trying to conform to the illiberal precedent of her French and Swiss sisters and to impose prohibitive conditions on practitioners of non-Italian qualification. Our Roman correspondent draws attention to the fact, and in doing so expresses the hope that the Di Rudini administration will meet the movement with a prompt and definite "non possumus." We sincerely join in this hope. "La France aux Médecins Français" is a narrow-minded and illogical shibboleth, but "L'Italia ai Medici Italiani" would be immensely more so. It is not a case of "France for the French" or "Italy for the Italian physician," but "the British resident or visitor in either country for a physician of his own nationality." If British consultants were to encroach on French or Italian *clientèles* we could understand the shibboleth referred to. But this is seldom or never the case. All that the English-speaking layman abroad requires is that his ailments shall be treated by a practitioner whose language he speaks and whose professional traditions are those of his native land; and, in turn, all that the English-speaking practitioner abroad requires is that he may practice his profession unrestrictedly so long as he does not intrude on the *clientèles* of his foreign *confrères*. The requirement in both cases is surely a justifiable one. But there is little reason to apprehend its being denied. For one thing, as amply demonstrated in the article referred to, Italy depends too much on British, American, and Anglo-Colonial gold to thwart the requirements of its distributors.—*The Lancet.*

BACTERIOLOGICAL IMPURITY

Of course, no one who does not wish to be out of the fashion entertains a scintilla of doubt as to the microbic theory upon which the practice of surgical cleanliness is based, or fails to persuade himself that the minute precautions for sterilization and antisepticism which are enjoined, are sufficient to insure nearly absolute safety against sepsis for both himself and his patient. It ought, however, to be understood that, by no possible means can anything more than relative cleanliness, as regards microbes, be secured. It is, without doubt, an excellent thing to be as clean as possible, though it may not be possible to be absolutely clean, and it seems to us that one of the ways to insure the highest degree of relative microbic cleanliness is to teach those who are overconfident as to their surgical purity, that no matter what they may do, there will still remain a great deal of antiseptic ablution to be done. The hosts of bacteria which all of us are engaged, at every moment of our lives, in imbibing are so countless that the assassination of nine hundred and ninety-nine out of every thousand of them would still leave our bodies packed with these germs, though not necessarily disease-producing germs. Dr. Kanthack, in a recent lecture delivered at the London Institution, gave some suggestive figures. The best samples of London milk, he says, contain 250,000 micro-organisms per c.c.—i. e., 80,000,000 in a penny glassful—but ten times that number is common enough. And they increase and multiply rapidly. The street-sellers of ice-cream have been recently condemned for throwing in such a multitude of microbes with their ha'p'orths. But Dr. Kanthack says that while the Italian barrowman gives two to five million microbes with each cubic centimeter of ice, the high-class West End restaurateur gives us ten to fourteen millions. A "millionth part of a sandwich contains innumerable microorganisms." Dr. Kanthack has eaten four to six of these sandwiches every day for the past twelve months, and was sufficiently alive to tell his audience that the richest dishes from the best cooks are perfect flora of microbes, and that we ourselves, outside and in, are literally covered with all kinds of them, even pathogenic, which seems the natural condition of things.—*Med. Press.*

A BUSINESS WIFE

Some—a very few—wives of physicians are noted as business women. They are at the head and front of all mission movements made on behalf of the *paterfamilias.* Such wives are active church members and in social circles, and become members of all the women-and-children organizations within their reach, and do not once hesitate to say to the good sisters that it is a duty owed to themselves to employ Dr. Blank. One doctor's wife heard of not only sought out the peculiar ailments of the women of her church and societies, but drummed them into her husband's office for physical examinations. Nor did she stop and restrict her labors to the church with which she affiliated, but neighbor women were placed under her surveillance, quizzed, and coddled into seeking advice from her husband.

That woman was a financial fortune to her husband. She knew every sick nurse with whom her husband came in contact. She carefully collated professional nurses' cards, invited them to tea; she wanted to be personally kind to them, wanted to help them in getting cases, and as one good turn deserved another the nurse was soon marshalled into her service as tooter for a man she called husband.—*Cincinnati Lancet-Clinic.*

SOME OF THE REQUIREMENTS OF MODERN MEDICINE

Clinical experience is the most important factor of successful medical practice. It is not less so now than it has been in the past, neither will it become less so. But other factors have arisen and assumed prominent positions. They have not detracted from the importance of clinical medicine, but have been additions to it. They have added to the responsibility of the physician and made medicine, year by year, a more difficult science to master. While they have put new weapons into the hands of the practitioner, his labors has been increased by the necessity of learning to use them.

It is certainly a fact that the old-time clinician, who was very expert as a clinician, but who knew very little outside of clinical medicine, is to-day at a discount as an author and teacher. He is certain to fall into error in his own chosen field if he disregards that knowledge of disease which is constantly being acquired by workers in other fields. Bacteriology and pathology are not theoretical sciences that are being studied merely for pleasure and curiosity. They are as "practical" as any department of medical science. The whole aim of the laboratory worker is to add to our knowledge of disease, particularly as to its cause and results. This knowledge in the hands of the clinician, is to be used as an additional weapon in his daily combat with disease. The practitioner cannot be a broad and wholly successful man who ignores either of the four great elements of medical science—bacteriology, which explains the causation of many diseases; clinical medicine, which deals with the visible manifestations of disease; pathology, which explains its results and methods of action; and therapeutics, which aims to apply a cure.—*Arch. of Ped.*

PAIN AND THE SURGEON

Many surgeons study pain in a somatic more than they do in a psychic way. It is as essential to study the various phases of psychic as of bodily pain. Mental shocks in the weakened and suffering have debarred cure. It is not necessary to create a catastrophe to shock those mentally weak, but we venture to assert that the rough indifference of the surgeon and the display of instruments have, combined, killed more than the mere operation. Trivialities carefully studied lead to perfection. Picture, if you will, a weak, delicate, suffering woman, whose brain dwells in morbid sensibility. She comes to a surgeon for operative procedure. Our lordly man of the knife has not time to indulge in the ordinary amenities of life and examines his patient in orderly, business fashion, without the faintest show of sympathy or feeling, and tells in the shortest possible way what has to be done, and honestly says that he cannot tell what the result may be. He has not time to soothe, placate or encourage. The time comes for the operation. The patient approaches the table in painful and nervous apprehension; nothing is said to encourage her. Chloroform is given without a soothing suggestion. Here is a mind that a mental shock can and will influence violently, and this mind goes under the influence of chloroform in a state where a morbid suggestion may be the means of causing grave results. It is a poor surgeon who cannot soothe and quiet a pained mind as well as a pained body. The surgeon is more often the unconscious, inflicting agent in operative work than he thinks.

A surgeon unacquainted with psychic pain is only half educated, and in truth the surgery of to-day becomes more mechanical and less soulful. Narrow, technique surgery makes most of its successes through the thoughts of other brains than that of the operator. If genius were required to make surgeons, then indeed they would be very few and far between. Technique is mechanical, not intellectual. The surgeon should not only be skilled in technique, but should have knowledge of every element of his art. He should be a student of the mind as well as of the body, and success only comes in its best form when we interpret every condition and surrounding of the patient aright.—*The Railway Surgeon.*

SURVIVAL OF THE UNFIT

Under the present management of the medical profession, with the great advances made in science, crippled lives are now prolonged indefinitely, and a serious question confronts us. Shall not the State more rigidly regulate the propagation of the invalid classes, as well as the criminal, the insane, and the generally unfit?

From the secular press we learn that one of the many projects put forward for celebrating Queen Victoria's reign jubilee this year, has been the extension of nursing homes for poor people. Mr. Arnold White, philanthropist and philosopher, declares that the scheme is one that will directly conduce to the multiplication of the unfit.

He says: "What is aimed at is not the murder or neglect of the sufferers who have entered the world, but to obtain part control over the supply of the suffering. The marked improvement in the physique of the French and German people since their adoption of a compulsory military service is so remarkable that even the English hospital authorities might well ponder over the deterioration of fiber among certain classes in their own country. Thirty years ago the French were regarded as monkeys or satyrs. Now they are men. The French soldiers of 1896 are vastly superior to their fathers. Foreign generals note the contrast between the physical renaissance of the continental generals and the fool's paradise in which England basks. Our separate caste of fighting men, our cult of sickliness and worship of weakness, our heedless conversion of the rural population into pastry-faced townsmen, and our cheerful dependence for food products on healthy races and possible enemies, are matters that are watched abroad with delighted surprise."

America may well follow up the line of thought presented by Mr. Arnold White.—*Medical Mirror.*

ISOLATION OF SCARLET FEVER

The isolation of cases of infectious disease is becoming so popular that there is some cause for fear lest it should come to be regarded as the beginning and the end of all sanitary endeavor. People are to be found who say, "Let us get every case into hospital, and then we shall be safe." Men of broader views quite understand that the advocacy of so simple a doctrine is but "playing to the gallery." But then does not the gallery contain a very respectable audience, including, indeed, many a medical officer of health? The fact is that isolation hospitals are a useful and in many cases a necessary part of the sanitary service of the country, and the more we arrange our lives in such a manner that no provision is made for the treatment of the sick at home, the more necessary will it become that the sick should go to hospital; but it is not by hospitals that epidemic disease is to be checked. A great and far too common error is to class all infectious diseases together, and to argue from one as to the treatment of the rest; and while we are quite agreed as to the desirability of isolating cases of smallpox, the success of measures taken with that end must not be accepted as in any way supporting the idea that epidemics of other diseases are to be controlled by isolation.

The assertion has, perhaps, been too readily accepted that scarlet fever is little influenced by general sanitary measures. Dr. Wilson disagrees with this dictum. Arranging the various towns in order according to the fatality of their scarlet-fever cases, he shows how accurately this order corresponds with that of their general mortality from all causes. The more extensively unhealthy conditions prevail, as shown by the general death-rate, the more fatal is the type of scarlet fever. All this should teach us not to place too much reliance in the popular doctrine that zymotic disease is to be fought by hospital isolation. These hospitals are of infinite service in helping back to health those who are attacked by the disease. But as a means of lessening the annual loss of life, general measures for the promotion of sanitary and social progress which, while improving general healthiness, also modify the type of scarlet fever, are of infinitely greater service.—*The Hospital.*

DIRTY THERMOMETERS

Did you ever think how it would repulse you to have a thermometer which had been removed from another patient's mouth and not cleansed, thrust into your mouth? Then always call for a glass of water and cleanse your thermometer *in the presence* of your patient, that he may know you have not been neglectful. Most patients are too polite to say anything, but they do a great deal of thinking, which may not result to your advantage.—*Peoria Medical Journal.*

ORIGINAL PAPER

THE THEORY OF THE MOVEMENT OF THE NEURON*

By F. X. DERCUM, M.D., Philadelphia,
Clinical Professor of Nervous Diseases in Jefferson Medical College; Neurologist to the Philadelphia Hospital

SUBSEQUENT to the reading of the interesting paper on The Neuron, by Dr. A. O. J. Kelly,[1] a number of members of the Society requested me to give an explanation of the theory of the movement of the neuron as held by myself. As I have pointed out in a previous paper, the theory that the neuron is not an absolutely fixed morphologic integer has been advanced independently by several writers. When the thought first occurred to me that nerve-cells have the property of movement, I examined the literature and found that it had already been announced independently by three writers, one in Germany and two in France. The first to advance such a view was Rabl-Ruckard, who in 1890 suggested that nerve-cells have ameboid movement. At the same time he pointed out the significance of this view in enabling us to explain the phenomena of hysteria. His ideas, however, attracted no attention; but in 1894 Lépine, in relating a case of hysteria of peculiar form, advanced practically the same theory. His idea was that the neurons were capable of movement to such an extent as to enable them to alter the degree of their relation to each other. Some six months afterward another French writer, Mathias Duval, advanced the same theory in a communication made to the Société de Biologie. Lépine had been unaware of the view advanced by Rabl-Ruckard and Mathias Duval was equally ignorant of that advanced by Lépine. A week after Duval had announced his theory, Lépine before the same society repeated his former arguments in its support. I myself presented the theory of the movement of the neuron in a paper read before the College of Physicians of Philadelphia, in January, 1896; and in June of that year read an address on the same subject before the American Neurological Association. In the meantime, in the spring of 1896, the theory has been again advanced by two other French physicians, Azoulay and Pupin.

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* Read before the Philadelphia County Medical Society, Feb. 21, 1897, and communicated to the AMERICAN MEDICO-SURGICAL BULLETIN by advance sheets of the transactions of the society.

[1] Transactions Philadelphia County Medical Society, 1896, p. 215.

This theory has now begun to attract general attention and is gradually meeting with support. It has been opposed, however, by the distinguished Spanish histologist, Ramony Cajal. I shall not take time to consider at length the views of this investigator, as I have already done so in a previous paper. I shall, however, pause sufficiently long to point out that his argument bears within itself its own refutation. He maintains that nerve-cells do not move, but on the other hand that the neuroglia-cells move. He points out the fact that the processes of the neuroglia-cells have numerous short arborescent and plumed collaterals, and he states that in these cells two different phases can be observed: first, a stage of contraction, that is a stage in which the cell-processes become shortened; and secondly, a stage in which the cell is relaxed, that is a stage in which the processes of the neuroglia-cells are elongated. He maintains that the processes of the neuroglia-cells represent an insulating and non-conducting material and that during the stage of relaxation these processes penetrate between the arborizations of the nerve-cells and their protoplasmic processes, and thus make difficult or impossible the passage of nerve-currents; on the other hand, in the stage of contraction the processes of the neuroglia-cells are retracted and they no longer separate the processes of the nerve-cells, and the latter are thus permitted to come into contact. Evidently Ramony Cajal admits the very thing against which he contends, for if the nerve-cell processes are at one time not in contact and at another are in contact, they must certainly move and the question before us is self-admitted. It matters not whether the processes of the nerve-cells move little or move much, but that they move at all is the question at issue, and this Ramony Cajal admits, though he makes the movement a purely passive one. It is certainly a minor point whether the movement of the processes of the nerve-cell is active or passive; although it is in the highest degree improbable, and is certainly not evident from the histologic facts at our disposal, that the neuroglia-corpuscles play the rôle of an insulating material.

While the movements of nerve-cells have not been observed in vertebrate animals, such an observation has been made in an invertebrate form. A German investigator, Wiedersheim, in 1890, saw, in the living animal, leptodora hyalina, an entomostracan, the nerve-cells in the esophageal ganglion move. This ganglion may in a sense be regarded as the brain of the animal, inasmuch as it receives the fibers of the optic nerve, and Wiedersheim actually saw these cells move and change their shape, and this movement he describes as slow and flowing. (He presents a number of drawings of the esophageal ganglion made at different times, showing the various shapes assumed by the nerve-cells.) This observation evidently possesses a profound significance. It does not matter that it was made upon a form far removed from the vertebrates, for we should remember that it is just in the lower forms that general biologic truths have been demonstrated. I shall not occupy time with a further consideration of the facts on which this theory rests, but shall proceed at once to its application to normal and pathologic mental and nervous processes.

Before beginning a systematic consideration of the theory, it may be well to give as an illustration of its simplest expression —the supposed behavior of the neurons in a case of transient hysterical paralysis. Hysterical paralysis, as we all know, may be so complete as to simulate very closely paralysis due to a gross lesion, and yet in the course of a few hours or perhaps in a few minutes such paralysis may absolutely disappear. Modern students of hysteria are convinced that hysteria is a *bona-fide* affection, with a syndrome that is as characteristic as that of any of the diseases with which we are acquainted. The idea of voluntary simulation has no hold on the minds of neurologists to-day. What is it that happens in the nervous system when a limb, say an arm, is suddenly paralyzed, remains paralyzed for a time and again suddenly recovers its function? Evidently some change has taken place in the nervous system. Let us see how the theory of the mobility of the neuron enables us to explain the phenomena.

The neurons of the motor area of the cortex, as you are aware, present not only protoplasmic extensions directed toward the surface of the cortex, the dendrites, but also a protoplasmic extension downward, which becomes a nerve-fiber, but which is, properly speaking, a process of the cell-body, no matter what its length may be. This process, which is now known as an axon, extends downward through the white matter of the brain, the internal capsule, the crus, the pons, the medulla and the cord and terminates in the last in a brush-like extremity, the end-tuft. By means of this end-tuft the cortical cell is brought into relation with the motor nerve-cells in the spinal cord. What the relation between this end-tuft and the nerve-cell in the anterior horn of the spinal cord may be is not known. It is probably one of contact or of close proximity. That an actual continuity of structure between the end-tuft and the spinal cell does not obtain is now absolutely known.

Now what happens in the case of hysteria in which the arm has been paralyzed? As the result, we shall say, of an emotional or other psychic shock, or possibly of a physical shock, the neurons of the arm-center of the cortex retract their processes and in such a way that their end-tufts in the spinal cord no longer bear their normal relation to the spinal neurons. In other words, the connection between the cells is broken. We shall suppose now, as many of us have seen, that as a result of suggestion, either with or without hypnotism, or spontaneously, the paralysis of the arm disappears. According to the view here advanced this disappearance is due to the extension or protraction of the processes previously retracted—that is, the end-tufts resume their normal relations with the spinal neurons and function is re-established. Certainly no other theory explains so readily the appearance and disappearance of hysterical paralysis or of hysterical anesthesia. In these conditions there is really a lesion, consisting of a break in the normal relations of the neurons, due to retraction of cell-processes.

As regards the movement of the cell-processes, it is highly probable that this property is not limited to the end-tufts of the axons, but that it is also shared by other processes of the nerve-cell, especially the collaterals, and perhaps even, to some extent, by the dendrites. A further possibility suggests itself, and that is, that the movement may be not simply one of retraction or protraction, but also lateral in direction.

Having acquired a clear conception of what is meant by the movement of nerve-cells, let us proceed to apply the theory in a systematic manner and let us see how readily it enables us to explain various normal and pathologic phenomena. Let us take, to begin with, the familiar instance of sleep. Sleep has been commonly attributed by physiologists to an anemia of the brain, notwithstanding the fact that true and undoubted anemia of the brain, such as follows great loss of blood or accompanies marked general anemia, is not attended with somnolence, but rather with insomnia. Let us see how the movements of the neurons will account for sleep. Evidently the neurons, when functionally active, must be in relation with one another. Their processes must be either in contact or nearly so. Evidently this condition is a prerequisite of consciousness. Now what happens when the nerve-cells are exhausted by fatigue, when their volume and their cell-contents have been diminished, as we have every reason to infer is the case, from the experiments of Hodge? Evidently their processes become retracted and they are no longer in relation with one another. The neuron isolated from the rest by retraction must be without function. General retraction of neurons must mean absolute loss of function, must mean unconsciousness, must mean sleep. In other words, in sleep the neurons have their processes retracted; in consciousness their processes are extended.

See, also, how beautifully this theory enables us to explain pathologic unconsciousness, such, for instance, as attends cerebral concussion. A man, while conscious, receives a severe blow upon the head; the neurons suddenly retract their processes, and unconsciousness results. Certainly no other theory for the explanation of the unconsciousness of cerebral concussion is equally simple, or equally plausible. It is extremely probable also that other forms of unconsciousness are to be similarly explained; for instance, the unconsciousness of chloroform or ether anesthesia, or the sleep produced by drugs. In these conditions it would appear that the neurons, by virtue of the direct action of the substances introduced into the circulation, retract their processes, and, for the time being, sever their relations with one another.

Let us now turn our attention briefly to elementary normal psychic processes; let us take up, for instance, the physiology of perception. What are the changes that take place in the neurons when a thing is felt or seen? Let us take a simple illustration, such as I have used in a previous paper. Let us assume that a sequence of sound-vibrations impinging upon the peripheral auditory neurons—that is, the nerve-cells of the spiral ganglion of the cochlea—produces in these neurons a change that affects the relations which their neuraxons—that is, their centripetal processes—bear to the nerve-cells of the auditory nuclei of the medulla, and secondarily to the neurons in the auditory area of the cortex. It is probable that the effect produced upon the latter is such as to cause them to retract, extend or otherwise move their processes, and thus bring about a change in the relations which the various neurons of the auditory area of the cortex bear to one another. It is evident, further, that the same sequence of sound-vibrations must always produce the same changes in the cortical neurons. In other words, given sounds are represented by certain combinations of the neurons with one another, and these combinations persist only so long as the vibrations impinge upon the auditory apparatus. An act of perception, therefore, consists of changes in the relations of the cortical neurons with one another; these changes corresponding to, and depending upon, certain physical impacts upon the sensory organs. As a corollary, the combinations among the neurons so formed bear definite and fixed relations to the external world.

Now what is the physiology of a conception? Evidently it consists in the reforming among the neurons of an old combination—that is, a combination the same as, or similar to, what was originally produced by a physical impression upon the organs of sense, but which is now produced by some other agency. Thus, a given note produces a certain combination among the neurons in the auditory area, and the forming of this combination is an essential part of the act of perception. To my mind, the act of conception consists in the formation among the auditory neurons of the same combination without the actual impinging of the sound-vibrations upon the ear. The explanation of the reproduction of old combinations in the cortex, without external sensory stimuli, I shall, for a moment, defer, and pass to the consideration of memory.

Various theories have been advanced to explain the phenomena of memory, but I shall not take time to consider them, simply showing how readily the theory of the motility of the neuron explains this remarkable property of mind. Let us recur for a moment to the illustration just used. We shall say that a sequence of sound-vibrations has impinged upon the peripheral auditory neurons, and, in turn, has caused the neurons of the auditory cortex to move their processes. Now, other things being equal, the degree of the excitation depends upon the intensity of the physical impact upon the auditory apparatus. Evidently the number of auditory neurons aroused into action must vary greatly, and it is probable that the movement does not cease in the auditory area of the cortex, but is diffused among neighboring areas, and even among those which are relatively distant. We shall suppose that a sequence of sound-vibrations has caused the auditory neurons to assume new relations with one another. These new relations will depend largely upon the fact whether or not a similar sequence of impressions has passed through those neurons before. If so, the old combinations will be reformed and, as a corollary, there follows the recognition by the *ego* of the sounds as something heard before. Here we have an elementary illustration of the act of memory. According to this view, memory does not depend upon fixed cerebral structure, but upon the combinations of the neurons formed from time to time, being the same as, or similar to, those that have been formed before. Let me illustrate a little further; the excitation that has been produced in the auditory area of the cortex gradually diffuses in various directions—that is, there passes from the auditory center of the cortex, through the general cortex of the brain, a series of combinations among the neurons along the oldest and best traveled lines. At first a given sequence of musical sounds suggests merely a familiar air, but, a moment later, when the movement has diffused as far as the visual areas of the cortex, old combinations are re-formed, which now give rise to visual memories, and, instead of merely the memory of a familiar air, we have in addition a visual memory of an instrument, or a person with whom the air is associated, or perhaps, of an operatic performance. I might enlarge upon this theory of memory, but time will hardly permit. Let us bear clearly in mind, however, that memory is not due to any constant condition of structure, but merely to the forming anew of old combinations among the neurons.

Other psychic phenomena also find a ready explanation on the theory here advanced. We can readily understand, for instance, how sequence of thought is explained by the movements of the neurons. If the neurons are constantly changing, if from the hour of awakening they are constantly responding to stimuli from without by changes in their relation to one another, it follows that the sequence of thought itself depends upon the sequence of these changes. Herein lies, also, the explanation of the continuity of thought. The direction of thought, and the association of ideas, must depend largely upon the frequency, and the consequent readiness with which special combinations among the neurons have been and are formed. Another idea also suggested in this connection is that not all of the neurons are active at the same time, but that the number varies greatly. However, I shall not pause to consider further this aspect of the subject.

I shall now call your attention briefly to the application of this theory to various pathologic conditions. Let us take up some of the simplest phenomena observed in insanity. What is an hallucination? An hallucination I should define as the spontaneous formation of an old combination among the neurons representing a former perception or conception, as the result of pathologic conditions, and not in response to normal stimuli either from without, such as physical impacts upon the sensory organs, or in response to normal stimuli from within, such as preceding and connected trains of thought, or other normal psychic processes. The combination representing an hallucination reacts in such a manner upon the general neurons of the cortex as to give rise to the belief in the reality of the sound, vision or other special sense-manifestations.

What is an illusion? An illusion is such a faulty combination of the neurons among each other as to lead to an imperfect recognition by the *ego* of the object perceived. Take, for instance, a case in which a cord or rope is mistaken for a snake. Here we have physical impacts normally received by the sensory apparatus, but, owing to a diseased condition of the neurons, these impacts lead to incomplete and erroneous combinations. We have already learned from the investigations of Berkeley, Andriezen and others that the neurons, and especially their processes, as a result of the action of various toxins, such, for instance, as alcohol, may become diseased. There would, therefore, seem to be every justification for regarding illusions as dependent upon faulty combinations among the neurons.

What is the pathology of a delusion? Here again it is probable that the explanation is to be sought in disease of the structure of the neuron, and especially of its processes. It is characteristic of a delusion that the patient is incapable of accepting evidence in relation to his false belief, even when that evidence is properly presented.

It would seem that in the case of a delusion it is impossible for the neurons to form such combinations with each other as will bring the patient into proper relations with the outer world. A simple illustration will make my meaning clear. The man who believes, for instance, that he has no mouth, in spite of the most direct physical evidence to the contrary, presents an instance in which a lesion has taken place among the neurons which renders them incapable of forming normal combinations in response to physical impacts upon the sensory organs. Again, it may be that a correct combination representing a perception or a conception is formed, but in such case the neurons of adjoining areas are defective, in that they cannot bring this combination into normal relation with the general neurons of the cortex.

How can we explain such a symptom as delirium, or the mental condition seen in confusional insanity? Evidently, owing to disease of the neurons, the disease being transient and due to the presence of toxic products in the case of delirium, or being possibly structural in the case of confusional insanity, the neurons act irregularly and wildly, making constantly the most erroneous combinations with one another. Fully formed and partially or erroneously formed combinations rapidly succeed one another; probably also without relation to previously established line of diffusion. It is easy also to explain the expansive mental state of mania and the depressive state of melancholia by merely supposing in mania that as a result of pathologic causes, generally toxic disturbances of nutrition, the neurons are acting with excessive rapidity and that a greater number of them are active then under normal conditions; and in melancholia that the movements are restricted and slower, and that a smaller number of neurons are active.

I had intended also to show the application of this theory to such pathologic conditions of the nervous system as are seen in hysteria and hypnotism. I have already instanced its application to one phase of hysteria, namely, hysterical paralysis. Let it suffice to say that all of the symptoms presented by hysteria, even the convulsions, can be explained by it. I shall not, however, more than allude to this portion of the subject. To hypnotism, however, I shall devote a few words, inasmuch as the theory of the mobility of the neuron is the only one that affords a rational explanation of this phenomena. Let us recall to our minds for a moment the condition of the neurons during sleep; their processes are retracted. Hypnotism is partial sleep—that is, a state in which only a portion of the neurons have their processes retracted. Let me illustrate my meaning a little more in detail. Let us take a case in which hypnosis is induced by the ordinary method of staring fixedly at an object and in which at the same time the suggestion of sleep is made verbally by the operator. Now, by reason of the effort of the attention, expended through both the visual and auditory channels, the neurons of the corresponding regions in the cortex are thrown into certain relations with one another, relations that correspond first to the action upon the ocular apparatus, and, secondly, to the words of the operator received through the auditory channels. Very soon, by reason of the visual fatigue and under the auditory suggestion of sleep, the neurons of the visual area retract their processes and the partial sleep of hypnosis begins. Gradually the sleep grows deeper—that is, by reason of the same influence, the other neurons of the cortex gradually retract their processes, with the single exception of those by means of which the verbal suggestion of sleep has been received, namely, the auditory channels. In other words, the consciousness of the individual has been restricted to the narrow field of auditory perceptions. While in this condition, somnambulism is readily induced. In response to words from the experimenter certain movements are induced among the neurons in the auditory cortex, and these movements, being communicated gradually to the neurons of other areas of the cortex, for instance, the motor area, may lead the individual to perform certain automatic acts or manifest signs of cerebral activity referable to other portions of the cortex.

I might still further elaborate this most interesting subject, but I must content myself by merely indicating the method by means of which hypnotism is to be explained. To my mind the theory here advanced is the only one that satisfies the facts.

I have endeavored to present in this paper my own views as to the application of the theory of the movement of the neuron and in as condensed a manner as possible. Any one of the special applications I have indicated could be enormously expanded. My desire, however, was to present this evening an outline merely of the subject, and I think that all will agree with me that the theory of the movement of the neuron is not only plausible, but captivating in the extreme, as it makes clear and comprehensible much that otherwise cannot be understood at all.

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Inhalations of Formaldehyde in Catarrh and Other Diseases of the Respiratory Tract

J. Lardner Green (*Brit. Med. Jour.*, Jan. 23, 1897) tells us the most predisposing cause of ordinary catarrh is most probably a depressed condition of the nervous system; the exciting cause a chill or other constitutional shock, paralyzing the branches of the first, fifth, and eighth pairs of nerves followed by the introduction of air laden with the ever-present morbid germs.

This leads to the conclusion that the most rational treatment is by means of germicidal remedies, the most direct mode being by the careful inhalation of gas or vapor; the best results were from the vapor of formalin, one or two drops placed inside a Jeffery's respirator. If the disease be in the acute stage, one drop will suffice; if the vapor be too stimulating, the respirator should be temporarily removed from the face to dilute the vapor with air; a feeling of warmth and comfort will follow.

The author strongly advises a trial of the formalin in the early stages of tuberculous consumption, when usually it will be found under the microscope that the numbers of both the micrococcus pneumoniæ and also of the bacillus tuberculosis which are constantly to be found in the sputum, will be rapidly lessened. Formalin is a short name given to a 40-per-cent. aqueous solution of formaldehyd gas. For inhalation in acute cases, the formalin should be diluted with water.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Joseph P. Winston M.D., George E. West, M.D.,
W. J. Robinson, M.D., L. Schöney, M.D.

Study of Hygiene

"Hygiene," says A. Jacobi, in the *Diet. and Hyg. Gazette*, "is that part of medical science which treats of the causes and prevention of disease." The theory of disease germs, of contagion, infection, antiseptics, disinfectants and deodorizers, quarantine and vital statistics compose hygiene. Many things in medicine are of very recent date; e. g., cellular pathology, the stethoscope, the teaching of pathological anatomy, and histology. A legitimate proceeding, shortly since, was to perform an operation upon the cadaver and repeat the same upon the living subject alongside. Hospital and dissecting-room existed under one roof. Pus, if "bonum et laudabile," was looked for. Pettenkofer, in 1788, through previous study, obtained recognition of the importance of hygiene. The sanitation of Munich followed, and typhoid fever was abolished. America has been first in accomplishing greatest practical progress.

In the rebellion 97,000 men were killed from wounds, but 194,000 more died from infectious disease. The practical result of this was, through a study of the cause, the pavilion system of hospitals, increase of air-space, isolation of contagious diseases, and improvement of heating and ventilation. The cause of contagion and infection remained unknown, until Leeuwenhoek, by reason of a better instrument than Kircher (1671), first discovered real bacteria.

Pasteur proved that all putrefaction and fermentation were due to microbes, and that each different fermentation had its own specific organic cause.

Later investigation shows that it is a chemical product of the microbe which penetrates into the circulation and destroys life, in certain diseases, while in others the microbe itself flourishes in the blood. The chemical product is more readily combated than the microbe. Pasteur proved that normal blood was free of germs. He and his pupils discovered a number of characteristic microbes, viz., that of malignant edema, the staphylococcus pyogenes, that of sputum septicemia identical with the pneumococcus, of the germ of chicken-cholera, and of hog-cholera. Koch demonstrated the bacillus tuberculosis.

The distinction between contagion and infection is important. Certain diseases cannot be communicated from person to person, but are spread only by the microbic cause invading the individual. To this class belong malarial fevers produced by plasmodia. They are not contagious, but infectious. Others are not communicable from person to person, but only through external carriers, as food, air, clothing. Yellow fever and Asiatic cholera belong to this class. They are infectious. Others again may be transmitted from a person or indirectly through carriers. Here are scarlet fever, diphtheria, measles, variola, influenza, erysipelas, varicella, whooping-cough. They are both contagious and infectious.

The power of infection may be increased or lowered. Pasteur found the bacillus of chicken-cholera less violent when the cultures were exposed to air and got cool. Still, hens infected with them sickened. On their recovery they were inoculated with thoroughly virulent germs, and the hens were found immune.

The virulence of the bacillus or its poison may be lowered in many ways: by high temperatures, partial desiccation, dilution by chemicals, or by culture of the original in different animals.

The comma bacillus of cholera does not enter the circulation, but destroys life by secreting a deadly poison; the same takes place in rabies and yellow fever. In these diseases the antidote is found in the lowered strength of the chemical poison, not in the weakened bacillus. Diphtheria has its antidote in the product found in the serum after this has been acted upon by the chemical poison.

The Duty of Physicians in Tubercular Cases

Dr. Taylor, in the Columbus (O.) *Med. Jour.* (Vol. 18, No. 1), indicts tuberculosis as equally contagious with other contagious diseases. The patient and his family are to be informed of this at once. It is a fact that no pecuniary loss is sustained if the patient goes elsewhere for treatment, because the physician will gain reputation for reliability in diagnosis, and candor in statements.

The patient should be warned against the conveyance of the germs by kissing, occupation of the same bed or apartment, and by sputa, and should be told that the disease is infectious through drinking cups and eating utensils. If uninformed on these and other details, the patient will take no precautions to avoid extension, and will probably marry.

Some tubercular manifestations are hip-joint disease, affections of other joints, tubercular glands, peritonitis, appendicitis, meningitis, osteomyelitis, nephritis, hepatitis, conjunctivitis, pharyngitis, etc.

Explain all these things to the patient before he leaves the consulting-room. Show what medicines to use, and how to use them. Regulate the diet, dress, and mode of life. Microscopic examination is very important. The physician should prevent marriage, if single, and assist, by advice, to prevent conception. Legislation should be aided in every way to prevent marriage of these patients. Cases should be reported to the Board of Health, and should be isolated, so far as possible. Literature, to inform the laity, should be circulated. All sputa and dejections should be burned or disinfected. If all precautions were carried out, mortality could be lowered one-half.

When Symptoms Are Absent

Dr. Thomas Jamieson, in the *Montreal Med. Jour.* (No. 7), gives histories of cases of this kind, of daily occurrence. Text-books do not give emphasis enough to this point. Lesions may exist without symptoms; e. g., in perforation of typhoid ulcer, it is taught that immediately we are confronted with severe abdominal pain developing in the right iliac fossa, and rapidly spreading over the whole abdomen, profound collapse, feeble running pulse, cold sweat, subnormal temperature, feeble respiration, great thirst, suppression of urine, vomiting. These do occur, but it is probable that they do not set in for ten or twelve hours after rupture. They are due not to rupture, but to resulting peritonitis. Rupture of viscera is not necessarily immediately accompanied by severe symptoms.

The writer recites the case of apparent flesh-wound from Flobert rifle. The probe showed penetration of the abdominal cavity. There was no pain, the pulse and color were good, and there was no anxiety of facies. Laparotomy disclosed a wound of large vessel with hemorrhage, eleven holes in the intestine, and laceration in another place. The autopsy showed the bullet in the spleen where free bleeding had occurred.

A boy of 12 years had bearing-down pain in the bladder, retention, delay in relief, followed by rupture of the bladder. The boy was comfortable; the temperature 103. Laparotomy showed a small tear at the apex of the bladder. In washing out the abdominal cavity, a gangrenous appendix was found and removed. The boy recovered.

Other cases are cited, and the following is quoted from Tiffany:

1. Penetrating wound of peritoneal cavity is not accompanied by symptoms commensurate with the injury.

2. Fatal lesions may exist, without marked symptoms; shock may be wanting.
3. Wound entrance to be enlarged; if abdomen be entered, section is called for.
4. Operation immediate, before infection of peritoneum, or loss of much blood.

Benefits of the Colloid Matter of the Thyroid Gland

Robert Hutchinson (*Brit. Med. Jour.* Jan. 23, 1897) considers the active constituent of the thyroid gland. He says we should reconsider our methods of thyroid administration, and give to patients the colloid matter separated from the inert part of the organ in a state of purity. He concludes as follows:

1. Constancy of dose is ensured. The quantity of colloid present in different glands varies considerably; hence the amount of active substance in dried preparations of the whole gland is really not constant. By isolating the active part and giving it alone the difficulty is removed.
2. The drug is quite pure. The pure colloid matter is entirely free from fat, which is always present in dried preparations of the whole gland and is apt to make such preparations disagree when given in large doses.
3. The pure colloid is entirely free from taste and odor, and keeps indefinitely.
4. A very small dose is required. Thus it will be found that as much of the dried colloid as will lie upon a sixpence is equivalent in activity to three of the tabloids in common use.
5. The colloid is absorbed with great ease and rapidity. The author lays special emphasis on this point. Incredible though it may appear, he has seen its effects begin to be manifested in a thyroidectomized dog within five minutes of its administration.
6. The administration of the colloid matter is really the most economical way of giving the thyroid. In giving the colloid, one is giving the active part of the glands; nothing more and nothing less. There is no waste of active material such as occurs in the preparation of thyroiodin.

A Case of Erythro-Melalgia

At the last annual meeting of the Medical Society of the State of New York (held at Albany, Jan. 26-28), Dr. H. Z. Elsner, of Syracuse, reported a case of erythro-melalgia in a washerwoman. The affection began with a headache and flushing of the face. Then she began to have burning sensations in the palms of the hands, followed by a maculo-papular erythema of the hands; the painful sensations in the latter were extreme, but the headaches disappeared. Gradually discoloration and dry gangrene set in in the thumbs, and the terminal phalanx of each thumb fell off. The erythema and pain then disappeared, and the patient was well, minus two phalanges. This was the forty-fourth case of erythro-melalgia on record.

Treatment of Chlorosis

Dr. Blum, in the *Phila. Polyclinic* (1896, V, p. 419), gives the following as a prescription which has been of signal benefit in a number of cases of chlorosis in which other measures failed:

Manganese and Iron Lactate (Merck)	96 grn.
Oxalic Acid C. P.	4 grn.
Strychnine Sulphate..	1 grn.
Comp. Extract Colocynth	16 grn.

Dispense in 32 capsules. One capsule two hours after each meal.

In some cases a compound of arsenic is most effective, a favorite combination being the manganese arsenate in doses of $\frac{1}{10}$ grn., three times a day, after meals.

Antidotes to Hydrocyanic Acid

As the result of physiological experiments, Lang, in the *Pharm. Centralb.* (1896, XXXVII, p. 755), found that nontoxic doses of cyanides were eliminated in the urine as relatively harmless sulphocyanates, the albumen of the living body furnishing the source of the sulphur. He also found that when sodium thiosulphate (hyposulphite) was given as an antidote, that the effects of from 1½ to 5 times the lethal dose of hydrocyanic acid was counteracted. When poison and antidote were simultaneously injected subcutaneously, no results were obtained, as the sodium thiosulphate is more slowly absorbed than the hydrocyanic acid. Beyond this, the method or means of administering the substances appeared to exert no influence on the result.

The use of oxycobaltous salts, more recently advocated, appears to show that these salts are even more powerful in their effects than sodium thiosulphate.

Hydrogen dioxide and potassium permanganate were found to be valueless.

The author recommends that a 5- to 10-per-cent. solution of sodium thiosulphate be kept constantly in readiness with a Pravaz syringe, although the usually rapid affects of hydrocyanic acid appear to render such provision useless.

The Incipiency of Diabetes

The *Brit. Med. Jour.*, 1877, states Loeb (*Centralb. f. innere Medicin*, No. 47, 1896) points out that we have little knowledge regarding the earliest stage of diabetes. When the patient first seeks medical advice, it is generally on account of some definite symptoms, and the urine is then generally found to contain a large amount of sugar (1 per cent. or more). The patient often states that he has suffered from the symptoms of the disease for a certain definite period only. But the author records cases which show that these statements are often unreliable, and that the disease may first begin as a slight and temporary glycosuria. In one of his cases the urine contained 5.3 per cent. of sugar, the specific gravity was 1.038, and there was a history of thirst of only fourteen days' duration. But the author happened to have examined the urine two years previously, while the patient was suffering from an attack of intercostal neuralgia. At that time 0.25 per cent. of sugar was present, but this had disappeared at the end of nine months. Hence, long before the well-marked symptoms of diabetes had developed, there was a diminished power of utilizing carbohydrates in the system, and slight temporary glycosuria as a result. In a second case of diabetes, the urine contained 7.9 per cent. of sugar, and had a specific gravity of 1.042. The patient stated definitely that symptoms of the disease had been present for four weeks only. The urine had been examined five months previously, and at that time the author had found traces of sugar present. In a third case of diabetes, the urine contained 4 per cent. of sugar. The author had found traces of sugar in the urine 2½ years previously. A fourth case has exhibited, from time to time, traces of sugar in the urine for four years.

The author concludes that in a great number of cases of diabetes, for a long period—often for years—before a large quantity of sugar is excreted, and before the characteristic symptoms of the disease appear, small quantities of sugar are excreted in the urine temporarily. During this period the patients are quite well, and, having no cause to consult a medical man, the opportunity of detecting this slight and temporary glycosuria seldom occurs. The author, of course, admits that there is not this gradual onset in all cases. He admits that there are cases which are very acute; cases in which a large quantity of sugar is found in the urine from the first. The author thinks that the temporary occurrence of a small quantity of sugar in the urine ought not to be regarded lightly. The cases above recorded show that sometimes it is followed by severe diabetes. On the other hand, some of the cases recover completely, and the author adds an example of this—which he followed for 4½ years and which has finally ended in recovery.

The Phonendoscope

Egger (*Münch. med. Woch.*; ref. in *Brit. Med. Jour.*, Dec. 5, 1896) has made investigations concerning the use of Bianchi's phonendoscope, and he states that a number of extra sounds are liable to be produced, which are troublesome, such as that made by the shaking of the tubes, or by the slightest touch of the ebonite plate or metallic case. The heart-sounds are heard with greater loudness, and over a more extended area, than with the ordinary stethoscope, but when only one tube is used, the limit is the same for the phonendoscope as for the hollow stethoscope. The increase in the sounds is useful for those who are deaf, but it is doubtful whether it is of any advantage to those with the ordinary acuteness of hearing. The hearing of the heart-sounds over the apices of the lungs is undesirable. Bronchial breathing and some moist sounds are not intensified by the phonendoscope. Sometimes the metallic clang is not transmitted by this instrument. Some overtones are conducted badly or not at all by it. A difference thus exists in the transmission of certain sounds. The author then relates his experiments to show that deep tones are intensified by the phonendoscope, whereas the higher tones are weakened or not heard at all. This explains the disappearance of metallic sounds and the higher tympanitic sounds. Rhonchi are intensified, but consonating *râles* are weakened. By the difference in the number of vibrations the author explains how vesicular breathing is relatively well heard, whereas bronchial breathing is heard with varying distinctness. Bianchi's contention, that the *timbre* of the sounds is not altered, is incorrect. Moist sounds produced immediately beneath the chest wall may appear metallic, and the author relates experiments to explain this. Thus in auscultation the sounds may be altered in two directions: (1) The metallic clang may be lost; or (2) sounds may appear metallic which are not really so. Murmurs may also be altered in their intensity, being sometimes intensified and sometimes weakened. The phonendoscope may be useful in differentiating murmurs in complicated valvular lesions, and in distinguishing between endopericardial and pericardial sounds.

Insect Bites

W. Ottinger (*Ther. Monats.*) recommends the application of ichthyol as an excellent remedy against insect bites. It may be applied pure, or as a 50-per-cent. ointment with lanolin as a base. In a few minutes the pain, burning, and itching disappear, and the swelling diminishes rapidly.

Alopecia Areata

Dr. Brocy (*Lancet*) recommends the following prescriptions for this affection:

Resorcin	1½ grn.
Quin. Hydrochlor	3 grn.
Vaselin	1 oz.

or

Résorcin	3 grn.
Quin. Hydrochlor	5 grn.
Precip. Sulphur	30 grn.
Vaselin	1 oz.

This should be used on a limited area only at each application; if the hair still falls out 15 to 20 drops of tincture of cantharides may be added to the ointment. If too much irritation is produced by the ointment, a simple ointment of borax and vaselin (1 to 5) should be used afterward.

An Ointment for Hemorrhoids

According to the *Ther. Gaz.*, *La Méd. mod.* states that Monin has employed the following formula with advantage in the treatment of hemorrhoids:

Camphorated Lanolin	2 oz.
Castor Oil	3 dr.
Precipitated Chalk	1½ dr.
Hydrobromate of Cicutine	30 grn.

Tetanus Treated Successfully with Subcutaneous Injections of Corrosive Sublimate

Harold Hendley (*Brit. Med. Jour.*, Jan. 16, 1897) reports a case of this sort occurring in a Hindu boy aged 9, who when treated with chloral hydrate, seemed to become worse; the paroxysms increased in severity and frequency, and a fatal ending seemed not far off.

As the chloral hydrate appeared to have no longer any effect upon the course of the disease, it was determined to have recourse to a method of treatment used successfully by Celli. The chloral hydrate was continued, and subcutaneous injections into the buttocks of corrosive sublimate in 0.0059 gme. doses were given twice daily, commencing on August 27. After the first two injections the spasms markedly decreased in frequency and severity.

On September 2—that is, after eleven injections—the paroxysms had entirely ceased, and from this date, when the injections were stopped, recovery was sure, and, considering the previous state of the patient, fairly rapid.

The Treatment of Phthisis by Guaiacolate of Piperidine

Arnold Chapin and F. W. Tunnecliffe (*Brit. Med. Jour.*, Jan. 16, 1897) have during the last three months investigated the value of piperidine guaiacolate in the treatment of pulmonary tuberculosis at the City of London Hospital for Diseases of the Chest. The patients submitted to the drug were subjected to close observation, and the effects of the medicine were from time to time noted. In all, fourteen cases were placed under observation, of which eight were out-patients and six in-patients. The duration of the observations varied, but it may be said that six weeks was the average.

In all cases the dose to begin with was fixed at 5 grn. three times a day, and this was gradually increased until 20, and in one case 25 grn. were given for a dose.

They formulate the following conclusions:

1. That experience has shown that it is a perfectly safe drug in doses of from 5 to 30 grn. three times a day.
2. That it causes no unpleasant effects.
3. That it is exceedingly well borne by the stomach, and in this respect it is equal to any derivative of creosote.
4. That patients while under its influence improved in appetite and general strength.

Europhen

According to the *Brit. Med. Jour.* Jan. 23, 1897, Saalfeld recommends europhen as the best substitute for iodoform in many dermatoses; it has no smell, and it does not irritate inflamed skin. In varicose ulcers with eczema it is of great value, for it has a beneficial effect on the eczema. It may be applied in powder, either alone or mixed with powdered boric acid. As an application in the intertrigo of children he recommends: Europhen, 5.0; lanolin, anhydr., 5.0; talc. venet., ad 100.0. He has also found it of much value in pustular affections and folliculitis, in the form of a 10-per-cent. ointment with lanolin, as well as in cases of pemphigus vulgaris and impetigo.

New Treatment for Tuberculosis of the Breast

The following formula yields an ointment that is a favorite with Dr. Roswell Park in the treatment of mammary tuberculosis:

Resorcin	5 parts
Ichthyol	10 parts
Mercurial Ointment	35 parts
Lanolin	50 parts

PEDIATRICS

EDWARD N LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DE FOREST, M.D., H. T. HOTCHKISS, M.D.

Care and Management of Feeble Children

Dr. J. M. Taylor (*Med. Times and Hosp. Gaz.*) gives the following causes of feebleness in children:

(1) Inherited; (2) intrinsic; (3) developmental; (4) acquired. No. 1 includes all tendencies, active or passive, in which is an element of remote or near heredity; e. g., racial characteristics seen in cases where generations are spent amid narrow surroundings. Change of circumstances modifies these cases in every instance. No. 2 includes all those children in whom is a lack of vigor, a defective capacity to react against depression. A lowered state of vitality in the parents, especially in the mother, immediately preceding or during gestation, is responsible for this. The children of an aged father, even by a vigorous mother, are usually frail, as are also the children of a mother in late bearing periods. No. 3 is seen in the production of a wretched child through want or bad care, where reversed conditions would produce the opposite result. No. 4 arises from infantile diseases and their sequelæ: Fatigue, effects of sewer gas in lowering resistance, and increasing susceptibility to zymotic diseases.

In discussing predisposing causes a wide field is entered upon. Epidemics are explained by the varying equation due to predisposition and power of infective agents; e.g., Koch states three causes of tuberculosis: Destroyed or damaged ciliated epithelium; denudation of the protecting epithelium of the bronchi; deformities of thorax and adhesions of the lungs. There is still further explanation to susceptibility, as disturbed state of leucocytes, integrity of phagocytes, the blood and blood-serum. The chief defense against germs is to destroy predisposition. Apply the remedy by perfecting tissues and maintaining the integrity of the blood.

Excitement, too much attention, and forced amusement are to be avoided. Excitable children should be watched, and any element of strain removed. For very young babies it is sufficient simply to keep them in the air, sufficiently but not suffocatingly clothed. In exceedingly cold weather veils are important. Cheese cloth is a good substitute where necessary, but it should be cleansed often. They should sleep in the open air if well protected. Weak-lunged children should be taught regulated breathing. Games such as pea-shooting, throwing bean-bag, playing with a soft sphere, similar in shape to football, should be instituted. The great element in all games is the incentive of competition. Over-exercise should be carefully rated. The evidences are much sweating on small exertion, pallor or bluish color with loss of lustre in eye, trembling of limbs, face or lips, rapidity of pulse. Gardening in all forms is the very best exercise.

Pertussis

Charles G. Kerley, in the *N. Y. Polyclinic*, tells us that a systematic attempt was made in an epidemic of whooping-cough to try all remedies now popular. The cases were divided into groups of twenty each, and only one drug administered to each group.

Antipyrin, the bromides, belladonna, dilute nitric acid and others were used. Antipyrin gave the best results. Under its use the number and severity of the paroxysms subsided. A combination of the bromides of soda, potash, and ammonia came next. The much-vaunted belladonna had little or no influence, even when given to the point of physiological effect. Alum, dilute nitric acid and fluid extract of horse-chestnut were utter failures.

Antipyrin never produced depression or other unpleasant results. Only once a rash resulted. A combination of antipyrin and the bromides gave better results than either alone.

For a child of 8 months, ½ grn. of antipyrin with 2 grn. of bromide of soda every 2 hours is recommended; for a child of 15 months, 1 grn. antipyrin, 2½ grn. bromide of soda. For a child from 2½ years to 4 years, 2 grn. of antipyrin with 2-3 grn. of bromide of soda every 2 hours was given.

The writer has discarded bromoform. Quinine in children over 2½ years is valuable, though hard to take, from the bitter taste and physiological effects.

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Scopolamine

Dr. Ball, in the *State Med. Jour.* (Vol. III, No. 6), says scopolamine has come to stay, it is the best of our mydriatics, acts promptly, dilating the pupil in fifteen minutes, and paralyzing the accommodation within one hour. It stands about midway between homatropine and atropine. As a mydriatic for refraction work it is *facile princeps*. It is very useful in iritis. It may be used in the strength of one-fifth of 1 per cent.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

The Influence of Tobacco in Nervous and Mental Disorders

The *American Journal of Insanity* (Vol. LIII, No. 3) contains an abstract of the paper of M. Buccelli, in the *Revista di Patologia* (1 Fosc., 10 Oct., 1896). M. Buccelli has studied the effects of tobacco, used either in smoking or chewing, on 200 subjects of various forms of nervous and mental disease. He finds that in many vesanics there is a decided repugnance to tobacco, though formerly used, while other excitants, like alcohol, are readily taken. When taken, however, it produced, in small doses, phenomena of intolerance, such as vertigos, cardiac neuroses, precordial pain, neuralgia of the cardiac plexus, nausea, vaso-motor disturbances, and temporary marked mental confusion. These phenomena were observed most prominently in convalescents from acute attacks, especially in those who had been addicted to alcohol.

These were the general symptoms observed. Taking up special phenomena in order, psychic manifestations were not very largely observed. In some paretics it seemed to exaggerate the euphoria, and the same occurred in some paranoiacs in the megalomaniac phase. In hypochondriac delusions, on the other hand, tobacco accented the delirious ideas.

In many neurasthenics tobacco-using caused an increase in the urine, with corresponding decrease of density. In three cases there was a glycosuria, all old senile dements; marked phosphaturia was once observed in a tobacco chewer, but generally the phosphates were little altered. Peptonuria and acetonuria, already existing, were exaggerated by the use of tobacco in some cases of paresis and saturnism.

As regards motor disturbances, the abuse of tobacco seemed often to aggravate epileptic attacks, and in two choreics the involuntary movements were greatly increased. In neuropathic subjects it often produced a rapid tremor of the hands, lasting for some hours after use of the poison. When tremor existed before, it was exaggerated more in degree than in rapidity. This effect was observed in the order of frequency, in paralysis, Parkinson's disease, epilepsy, alcoholism, hysteria, and convalescence from acute disorders. In epileptics the increase was often in inverse proportion to the age of the patient.

The sensory disorders from the use of tobacco were not extensively observed. In a case of polyneuritis induced by tobacco there were characteristic perversions of the color sense. In girl smokers, especially, besides feeling the thoracic constriction and precordial pain, there was sometimes observed a constrictive headache.

The pupillary reflexes were now and then influenced. In paralytics, with still reacting pupils, the abuse of tobacco caused for some hours a pupillary rigidity, and where myosis existed it was more prominent.

In paretics and organic dements tobacco excesses often induced congestive conditions from vasal paresis, which was often shown in the cutaneous vessels.

The author sums up as follows:

1. Tobacco is a poison, which, perhaps, more than any other, though having little effect in health, has, on the other hand, pronounced action in diseased conditions.
2. Tobacco is especially a poison to the sub-cutical and bulbar nerve centers, as is demonstrated by the phenomena developed in individuals affected with serious morbid processes of the cutical centers.
3. Being thus capable of producing disastrous effects in convalescent cases who were given to its use before their disorder, and had then suffered no disadvantages, we should be very cautious as to permitting the resumption of its use in such cases.

Cerebral Syphilis

Dr. Sydney Kuh (*American Journal of Insanity*, January, 1897) believes that among all forms of visceral syphilis, the cerebral lesions are by far the most important, both on account of their frequency and the gravity of their symptoms. The writer quotes Fournier as having found the cerebrum affected in 631 out of 3429 cases of tertiary syphilis, i. e., 18.5 per cent. of all cases, thus showing that lues of the cerebrum is from five to six times more common than that of the spinal cord.

Cerebral symptoms may follow the primary lesion within a very short time. On the other hand, it is not very uncommon to see a long term of years elapse before grave cerebral symptoms follow the ulcus durum. Most commonly this occurs between the third and eighteenth year, and in the majority of cases within the first decennium.

Predisposing causes, according to the writer, may be entirely absent, but as a rule we find that either a hereditary neuropathic disposition, cerebral overexertion, an injury to the head, or chronic alcoholism has paved the road for an attack upon the brain.

An energetic and thorough treatment of the early stages of syphilis certainly decreases the danger of cerebral lesions, but does not remove it entirely.

The symptoms of cerebral syphilis naturally vary greatly according to the nature of the lesion and its seat, so that one can say there is no one cerebral symptom which does not occur with greater or lesser frequency in this disease.

The onset of grave troubles is very often preceded by a prodromal stage. During this premonitory stage of the disease remission and intermission are of very frequent occurrence, so that they might almost be called pathognomonic.

Syphilitic aphasia, when once established, does not in any way differ from an aphasia due to other lesions, but the permanent establishment of the symptoms is very often preceded by brief transitory attacks of impairment of speech, which pass off sometimes after a few minutes, sometimes after a day or two, and may be separated from each other by intervals of some years.

Paresis is rather more common than total paralysis, and often the loss of power is unequal in the various segments of the affected side.

Syphilitic meningitis of the convexity of the brain is much less frequently met with than that of the base, and its symptoms are less characteristic.

Gummata of the brain are usually multiple. Not very infrequent in adults, they are very rare in children.

Syphilitic epilepsy may in no way differ from ordinary so-called idiopathic epilepsy. Both *petit mal* and *haut mal* may occur, and they are sometimes combined with other symptoms of cerebral syphilis. He recalls the well-known fact that syphilis of the parent is one of the important causes of epilepsy in children.

We are able to make the diagnosis of cerebral syphilis in a very large number of cases independent of any history of venereal infection. The important points are: Firstly, the nature of some symptoms, such as intense headache with nocturnal exacerbations, the frequency of certain ocular disturbances, the irregular character, association, and sequence of the symptoms, and—a point upon which the writer lays particular stress—their great variability. Secondly, the age of the patient—from twenty-five to forty-five years—a time at which similar disorders from other causes are rare; and, finally, the effect of anti-syphilitic treatment.

As to the course of the disease, its development is usually a gradual one, progressive but irregular, not rarely even intermittent.

The prognosis is a fairly favorable one. In hemiplegia we can hope for a favorable outcome only when the case comes under proper treatment at a very early stage.

In basilar syphilitic meningitis a complete recovery is not uncommon.

Meningitis of the convexity of the brain gives a still more favorable prognosis, a complete recovery being the rule rather than the exception, provided, of course, that prompt and energetic treatment is instituted.

Two points, however, should always be considered when giving a prognosis. The fact that a certain degree of mental weakness is a rather common permanent effect of all these forms, and that the danger of relapse is in every instance great.

The following is the plan of treatment the author pursues in such cases: First, the patients are ordered to use ungt. hydrarg. ciner., 3.0 per diem, increasing the dose as rapidly as is possible until the patient's gums show the first signs of being affected. A different part of the body is used for these inunctions on each day of the week. A cool (not cold) bath precedes each rubbing, and the mouth is cleaned frequently during the day with a gargle of potash chloride. In mild cases this treatment alone is continued for about thirty days; in more severe ones Dr. K. adds iodide of potassium, beginning with moderate doses and increasing them rapidly as far as the patient can tolerate them. At the end of the first month the mercury is discontinued, and the iodides alone are given for another month. At the end of this time the inunctions are resumed, if the symptoms have not all disappeared, and if the patient's health admits it, either with or without the iodides, according to the gravity of the case. After the symptoms have disappeared, or when the patient shows signs of anemia, tonics are given for about thirty days.

The tonic treatment is again followed by the administration of mercury, which should be continued with interruption for some years after all the symptoms have definitely disappeared.

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Keratitis Dendritica

Allport (*Am. Jour. Ophth.*) says he has found the most certain and rapid cure in the application of absolute alcohol. He soaks a piece of lint in alcohol, and then scrubs the surface of the cornea with it; this may be necessary two or three times.

SURGERY

William B. Coley, M.D., Jarvis S. Wight, Jr., M.D.

Wandering Spleens

J. Bland Sutton, in a paper read before the Medical Society of London and reported in the *Brit. Med. Jour.* (Jan. 16, 1897), states that the epithet "wandering" has been applied to organs unduly mobile, the common examples being wandering kidney and a wandering goiter; in none is the term so well deserved as in the case of a very movable spleen.

The positions assumed by a wandering spleen are very dissimilar; moreover, wandering spleens exhibit more undue mobility than a similar condition of the kidney.

Wandering spleens are almost, but not exclusively, confined to women, and in the majority of cases the subjects have had children.

A wandering spleen may, and occasionally does, jeopardize life. The dangers are:

(1). Rupture of stomach or duodenum.
(2). Intestinal obstruction.
(3). Abscess of spleen.
(4). Rupture of spleen.

Wandering spleens have been confounded with many kinds of abdominal tumors, such as ovarian cysts, renal tumors, malignant tumors of the omentum, movable kidneys, and uterine myomata.

Splenectomy for wandering spleen is not only justifiable, but it is a highly successful operation, the rate of recovery being equal to that of ovariotomy in skilled hands.

The great difference between splenectomy and splenopexy is that in the former case the individual is deprived of an organ, and, although we do not know with any degree of precision what its real use is, we are nevertheless bound to display caution in dealing with it.

The writer regards the spleen as a highly developed and specialized lymph gland, and at present there seems to be no reason for hesitating to remove it when "wandering" and troublesome, in so far as remote consequences are concerned, than excising a crowd of enlarged glandulæ concatenatæ.

It is a fact that many, if not all, individuals with a wandering spleen are very thin and often gaunt, and as far as the author's observations go, they retain this character when spleenless.

Gonorrhea Treated with Pyoktanin

Dr. James Moore, according to the *Brit. Med. Jour.* (Jan. 16, 1897), after seeing the benefit derived from the use of pyoktanin as an injection, was first led to think of using the anilines internally; of these he found methylene-blue best suited. The cases in which he exhibited this drug were all first attacks, and this the author considers a very important point bearing on the success attending this treatment.

Dr. M. prescribes methylene-blue 3 grn. thrice daily, and citrate of potash 15 grn. or 20 grn. thrice daily. He has thus treated nine first attacks, and in each the acute stage was cut short, and the patients' sufferings were greatly mitigated. With regard to the mode of action of methylene-blue in gonorrhea, the writer believes that it interferes with the development and virulence of the micrococci causing the disease. This is probably due to the staining action of the drug, either on the organisms themselves, or on the soil in which they grow; some chemical change being brought about. Methylene-blue is excreted by the kidneys unchanged, so that the patient, in urinating, flushes the urethra with a fluid capable of staining the organisms and the mucosa of the urethra.

Some time after the administration of this drug it can be found in the blood—principally in the leucocytes—of any of the tissues. This fact Dr. M. was able to prove after examining the blood from the finger of one of his cases. The amount present in the blood depends upon the relation existing between absorption and excretion by the kidneys and rectum.

The writer states that the acute stage is cut short before the mucosa and sub-mucosa are extensively damaged, and thus the risks of serious complications and sequelæ are lessened. He moreover argues that if experience shows that this drug in any way diminishes the rapidity of development and virulence of micrococci in the tissues, it ought to prove a valuable adjunct to the treatment of general septic diseases.

Intestinal Suturing

A reader of the BULLETIN complains of the dearth of information in his text-books, and in the several medical journals for which he subscribes, on the subject of intestinal suturing. The qualifications of a good suture, according to Treves, are:

It should bring into contact two broad surfaces of peritoneum, these surfaces belonging, respectively, to the bowel above and below the breach to be closed.

It should effect a complete closure of the wound, the test being that the seam should be water-tight.

The mucous membrane should be excluded.

The suture should not strangulate the

free margin of the intestine, with which it is concerned.

The suture should not pass through both the mucous and serous coats. Such a suture—especially when made of silk—would tend to act as a seton, and would be apt to conduct the intestinal fluids to the outer surface of the bowel, by means of capillary attraction.

The suture should be simple, should be easily introduced, and should be capable of effecting a rapid closure of the wound.

The thread should take so firm a hold of the tissues that there is no danger of its cutting out, when strain is put upon it, as may be the case if the viscera becomes distended.

The chief methods of applying intestinal sutures are: Dupuytren's; Gely's; Cushing's right-angled continuous suture; Lembert's; Czerny's; Halstead's, and Semi's modification of Jacob's method of applying suture in invaginating method of uniting free ends of the gut in resection. Lembert's suture has stood the test of time, and it may be safely said that it is, on the whole, the best form of suture. It may be supplemented by a second row of stitches, as Czerny advises. The best suture material for this work is fine silk; though some prefer fine catgut for small intestinal wounds.

In special cases a double row of Lembert silk sutures is best in burying the stump of an amputated appendix.

In enterotomy, the wound in the abdominal parietes should be partly closed with silkworm-gut sutures, which are introduced at both extremities of the wound. These should include the peritoneum, bringing it as near the cut margin as possible. The wall of the bowel should be stitched to the skin-margin which tightly surrounds it on all sides, with fine silk. These should involve skin and serous and muscular coats of bowel. After opening the gut, silkworm sutures should be passed laterally from the skin toward the gut, transfixing the whole thickness of the intestinal wall, to hold the gut in position.

In closing abdominal wounds, interrupted silk or silkworm-gut sutures are best, including the peritoneum and passed from within out; or the peritoneum, muscles and skin may be closed separately by means of continuous silk or silkworm-gut sutures.

Extensive Breast Amputation

Tausini (*Intcr. Med. Jour.*) holds, that in the attempt thoroughly to remove all lymphatic glands which may possibly become involved, secondary to cancer of the breast, recurrence in the skin has been overlooked. He calls attention to the frequency of recurrence of this sort in the form of isolated nodules in or near the scar. In order to avoid such recurrence, he removes the overlying skin of the whole breast, and a strip about four inches wide from the breast into the axilla. To cover the defect, a flap is dissected from the back, with its pedicle near the axilla, and stitched in position over the wound.

Prostatic Hypertrophy and Retention Treated by Cauterization Through the Rectum

Negretto (*Gazz. degli. Osped.*, Dec. 27, 1896) cites four cases of prostatic retention treated successfully by the above method. After thoroughly emptying the rectum, the patient is anesthetized and a rectal speculum passed, the upper part of the bowel is plugged with gauze, and then, under the guidance of the finger, a specially devised hook with graduated stems is passed into the prostate to steady it. The prostate is then cauterized with a Paquelin or galvanocaustic over the extent required. The operation only lasts two minutes. The bowels are kept confined for a few days, and a catheter kept permanently in the bladder for some time. On the sixth or seventh day a purge is given, and at the end of ten or twelve days the catheter is removed, and the patient can urinate by himself. The patients were 56, 62, 74 and 78 years of age, respectively, and had suffered from prostatic disease from three to five years, on the average. In each case, cauterization per rectum not only speedily relieved the congestion, but caused a notable diminution in the size of the prostate. The author believes this method to be superior, both in its immediate and remote effects, to castration or excision of the vas deferens.

Amyloform

A new compound has been introduced by Prof. A. Classen that has been patented under the name of "Amyloform." It is made by the action of formaldehyd on starch, and is said to possess properties similar in every respect to glutol (formaldehyd-gelatin), for which it is offered as a substitute in surgical treatment. Like the latter, it is decomposed when in contact with the tissues or secretions, and the liberated formaldehyd acts much more energetically than iodoform. It is said to have been used by Prof. v. Winckel, of München, in a number of cases with satisfactory results, but definite data are not given.

EYE, EAR, NOSE, AND THROAT

JOHN C. LESTER, M.D., HEBER N. HOOPLE, M.D.,
VINCENT GOMEZ, M.D., WM. C. BRAISLIN, M.D.

Gunshot Wound of the Eye, in Which Two Pellets of Shot Were Retained and Encapsulated, with Preservation of Sight

Mr. Brundenell Carter, according to the *Med. Press and Circular*, presented to the Clinical Society of London, the case of a boy, aged 14, who, on Dec. 14, 1895, received a charge of snipeshot in his face from a gun, the muzzle of which was only three yards away. Most of the charge entered the mouth, and the jaws were much injured, but two pellets passed through the left lower lid, and entered the eye, piercing the sclera below the cornea—one just to the nasal side of the vertical meridian; the other on the same horizontal line, and four or five mm. nearer the nose.

Mr. Carter saw the case two days after the accident, and, after dilating the pupil, was able to see that the retina had been wounded. An expectant treatment was pursued, and the eye recovered without inflammation or trouble of any sort. By Feb. 4 all the blood effused within the eye had been absorbed; and it was then seen that the retina and choroid, having been wounded below the optic disk, had disappeared from an extensive region, probably by retraction, leaving the internal surface of the sclera exposed to view; while on the temporal margin of the gap thus occasioned, two pellets of shot were lodged and encapsulated, one slightly above the other, producing elevations which are about 1 mm. above the general level of the fundus.

Central vision is now equal to ten-twelfths of the normal, and the gap in the upper part of the field is too remote from the fixing point to occasion any inconvenience. The patient is at present able to take part in all games and pursuits suitable to his age and position.

Asthma of Laryngeal Origin

Drs. Botella and Cortés (*Archivos Latinos de Rin., Lar., Otol.;* ref. in *Siglo méd.*) publish an interesting clinical history of a patient 40 years old, suffering from asthma, whose principal symptoms are as follows:

The affection dates back three years, being attributed to a cold, with intervals of more or less intensity; later on, hoarseness coming on, and nocturnal attacks of asthma. The laryngoscope revealed hyperemia of the mucosa, a catarrhal state of the same, and a polyp (soft fibroma), the size of a pea, situated at the anterior angle of the larynx, and having its implantation in the region of the cords; it fell in the subglotteal space.

The asthmatic attacks being attributed to the growth, it was extirpated under cocaine anesthesia. After cleansing the organ, the site of implantation was touched with zinc chloride. On the following six days, applications of menthol and nitrate of silver were made to the larynx, which, combined with inhalations of sulphurous water, served to cure absolutely the asthmatic attacks, and the concomitant laryngeal catarrh.

The operator points out the etiological value of voice-straining, and the laryngeal hyperemia, as a cause of polypi, without giving any great diagnostic importance to the dyspnea when the polypi do not occupy the glottis itself.

Acute Tonsillitis and the Rheumatic Diathesis

G. B. Hope (*Rev. internat. de Rhin., Otol.*, etc., 1896, No. 11) sees more than 2000 cases of throat disease each year, and states that it is quite exceptional for him to find one of tonsillitis of rheumatic origin, though he has taken pains to examine suspicious cases minutely on this point. We meet acute local manifestations of general rheumatism in sero-fibrous tissues, not in muco-fibrous, to which the tonsils belong [where we ought not to expect it] unless we grant a special predisposition in the tonsils to this affection. We do not think of making a parallel between acute rhinitis and acute tonsillitis, either pathologically or therapeutically. It is also rare to find return of tonsillitis after an attack of acute rheumatism. If the predisposition exists at all, it must be in a minimum of cases. Again, in advanced life the tonsils become less and less subject to inflammation, while gout and rheumatism are then more frequent.

Suppurative inflammation about the tonsil is of an infectious character, and is often caused by the fracture of the septum nasi for the purpose of straightening it. Such remedies as guaiac and the salicylates, useful to shorten attacks of rheumatism, fail to abort or lessen those of tonsillitis, as admitted by those who judge tonsillitis to be of rheumatic origin.

Extraction of the Lens for a Circumscribed Central Opacity

The *Gazette hebd. de Méd. et de Chir.* for Dec. 17, 1896, contains the proceedings of the Société d'Ophthalmologie, held on Dec. 1, at which M. Jacqs gave the history of a case presenting a circumscribed central opacity of the lens, for which the doctor practiced extraction of the lens. The patient, a man 38 years of age, was employed as correspondent in a commercial house. In April, 1896, he had so much trouble with his sight that he was unable to read or write. On examination, it was found that both eyes presented a circumscribed opacity in the center of the crystalline, the rest of the lens being absolutely transparent. The fundus oculi was normal. Distant vision = ⅓; near, could read No. 9.

As the patient was desirous of obtaining relief, the lens was first needled to hasten maturity, and later on it was extracted.

Fifteen days after the last intervention the patient, after having put on the appropriate glasses, obtained: V = 1, and could read Jaeger No. 1.

The author believes that the interest of this case lies in the fact that the patient, who had this opacity for such a long time, should have recovered immediate perfect vision after the extraction.

From a general point of view, M. Jacqs believes that extraction of the crystalline may be preferred to iridectomy in cases of central lenticular opacity of a standing character.

Pneumococcic Pharyngitis

Ernest Gaultier's *Thèse de doctorat*, Paris, 1896, is summed up in *Rev. hebd. de Laryng.*, etc. (Jan. 30, 1897). This pharyngitis affects, particularly, adults. Colds, contagion, and previous state of the throat must be considered in the etiology. The Talamon Fraenkel microbe often exists in the bucco-pharyngeal cavity, the sinuses, and the nasal fossæ of those in health. The affection may occur alone, precede, accompany, or follow another pneumococcic attack. It shows itself most frequently in winter and spring. Its outset is marked by the formal chill of pneumonia; sometimes by repeated chills. The fever is very high; defervescence sudden. Occasionally pain is absent, from chills and fever. If false membranes are produced, it is seldom before thirty-six or forty-eight hours. Submaxillary adenitis is constant; swelling of the spleen has been noticed.

Several types of the anginal affections exist: the suppurative, follicular, erythematous, pseudomembranous, and herpetic. The spread and duration of these throat affections and pneumonia are somewhat analogous; the temperature curve is nearly the same; the pain of the throat and the dysphagia may be likened to the dyspnea. The general clinical diagnosis may be based on the sudden onset and high temperature. The pseudomembranous and herpetic forms resemble much, in clinical character and histology, the false membranes of diphtheria, but the onset in the latter is slow, the fever is moderate, there is no chill, and Loeffler bacilli are present. The prognosis is good, but a laryngitis, a pneumonia, or a pleurisy might easily be a complication. Prophylaxy, keeping the mouth antiseptic, and general tonic treatment are the usual means of combating it.

Prevention of Ophthalmia Neonatorum

The *Rev. gen. d'Oph.* (No. 11, 1896) gives a summary of Lor's recommendations as follows:

1. Antisepsis of external genitals and vagina of the mother; antiseptic vaginal injections before each accouchement;
2. For the child, Crédé's method, pure and simple (2-per-cent. silver solution, after cleansing the lids with water);
3. Antiseptic care of the hands before and after each contact with the genital organs of the mother and the eyes of the child. Discard all linen contaminated or suspected;
4. Uniform instructions for midwives of each country, and requiring antepartum vaginal injections and the Crédé method;
5. Compulsory report of the midwives of any case of ophthalmia starting within the two weeks after confinement, under penalty of fine or other punishment;
6. Distribution to the parents, at marriage, of a circular on purulent ophthalmia and the means of avoiding it, and the duties imposed on midwives.

Ozena and Atrophic Catarrh

Dr. John North, in the *Med. Rec.* (Jan. 2, 1897), claims to be able to cure atrophic catarrh. He traces all cases to a primary true rhinitis, purulent in character, most often commencing in childhood, which, when left untreated, produces hyperplastic enlargement of mucous tissues, with ultimate contraction, loss of nutrition, and formation of offensive greenish crusts, without ulcers, in non-syphilitic and non-strumous cases.

The treatment is directed to removal of the diagnostic, green crusts, by means of alkaline solutions, such as Dobell's and Seiler's, preferably with addition of resorcin, to be followed by spray of warmed vaseline containing 1-per-cent. solution (by means of heated glycerin) of resorcin. In severe cases the cleansed patches are treated by touching with 2-per-cent. solution—on cotton on a probe—of trichloracetic acid, which acts as a stimulant and recovers the vitality of these tissues. After the application, made stronger if necessary, vaseline and resorcin spray are again used.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D., HOMER E. FRASER, M.D.

Prurigo

Ernest Besnier (*Annales de Derm. et de Syph.*) concludes as follows:

1. The pruriginoses which Willan united in the order of papules—strophulus, lichen, prurigo—constitute a natural and normal dermatological group, which the name prurigo group fits perfectly.

2. The term prurigo, accompanied by qualifying adjectives, presents correctly and without the least ambiguity, all the affections here united. The adoption of that terminology puts an end to the confusion arising from multiplicity of species, forms, and varieties arbitrarily named according to characters exclusively morphological.

3. The name Pruritus, which signification is a symptom common to many morbid states, cannot indicate a syndrome, and still less serve to denote a disease; it should be kept for symptomological terminology.

4. The group of prurigos comprises the prurigo of Willan and those of the lichen and strophulus species, since Hebra's time scattered among erythemas, urticarias, eczemas. The majority of them, revised and restudied, are reintegrated with prurigo.

5. The attempt to constitute a new type of prurigo, based on a supposititious specific anatomical character, would continue the confusion in regard to the affections of the same nosological order as prurigo, now scattered through other classes.

6. Several kinds of true prurigos—pruriginous, multiform, chronic dermatitides, with exacerbations—have multiple and common lesions, the first of which are lichenization and eczematization. They form a class among prurigos due to diathetic conditions; they constitute one of the most ordinary types of diathetic prurigos.

7. General neurology and dermatological neuropathology are not advanced enough to treat profoundly the question of angioneuroses, neurodermites, applied to the prurigo-theory.

8. Whatever the pathogenic agent governing the production of pruritus and primary or secondary lesions of the skin in the prurigos, the existence of blood-changes, direct or indirect, of complex character, is highly probable. According to the theory, the prurigos would be temporary, intermittent, remittent, permanent toxidermias, or autotoxidermias. Whether it is toxic or toxinic, this irritant, produced in the liquid blood or in the lacunar spaces by secondary reactions, acts on the sensory areas of the cord or its peripheral extremities, and creates, with the pruritus, or in its train, disturbances of circulation and nutrition, which represent the series of primitive parenchymatous lesions.

9. Pruritus in the prurigos, is prior and superior to the lesions. The autonomous itching of the papule, or of other anatomico-pathological states, is not to be confounded with the local pruritus or the diffuse which surpasses the limits of the area and emanates directly from primitive cord or peripheral irritation, and not from the lesion which is contingent upon it.

10. In the prurigos, the direct action of pathogenic conditions tends to produce in the skin a physio-pathological state, a sensory and nutritive disturbance, and, for the acute forms, a more or less increased neurovascular tension; but it does not commonly determine, of itself, the lesions of the surface. These lesions, acute, slow, chronic, primary, or secondary, immediate or remote, count among their essential factors traumatic acts of scratching, etc. Conveniently and completely protected against traumatisms of every sort, the skin remains free from lesions of the surface.

Diagnostic and Prognostic Value of Angina in Variola

Chossy (*L'Independance méd.*, Dec. 7, 1896, p. 328; ref. in *Med. Rec.*) says that angina in variola always manifests itself at the same time as the cutaneous eruption (as a rule at the end of the third day). Like it, the elements pass through the same phases, macules, papules, vesicles, and pustules. Peri-amygdaloid and submaxillary edema are frequently observed in the confluent forms. It is a benign edema, which may be confounded with parotiditis. Angina of variola presents little gravity if uncomplicated. It does not leave cicatrices after healing. Its coincident appearance with cutaneous eruption is an element of differential diagnosis that is highly important. Slight hemorrhage, at an early stage, in the papules of the palatine vault (resembling tobacco seeds), announces the early, hemorrhagic, deadly form. The presence of streptococcus pyogenes appears to be an aggravating element in prognosis. Angina of variola is of great importance from a hygienic standpoint. It assures an early diagnosis, even in varioloid and in concealed forms. It proclaims and controls the intermittent outbreaks following in the course of the contagious disease. The treatment should be antiseptic—gargles and naso-pharyngeal washes with lukewarm boric-acid solution.

Eczema and Hyacinths

At a meeting of the Linnean Society of London, Dr. Morris, of the Royal Gardens, Kew, showed some specimens and slides of raphides in the bulb of the common garden hyacinth (hyacinthus orientalis and its varieties). Gardeners, says the *Brit. Med. Jour.*, are aware that persons handling and cleaning these bulbs are liable to eczema, and Dr. Morris' experiments and observations in the Jodwell Laboratory at Kew have shown that the scales from the bulbs, whether dry or moist, were capable of causing much irritation in some people when applied to the skin. The raphides, which, it seems clear, cause this irritation, are needle-shaped crystals of calcium oxalate, varying in length from one-hundredth to two-hundredths of an inch. They are arranged in close bundles, and when the scales are rubbed are easily detached. Dr. D. H. Scott, at the same meeting, mentioned some experiments which confirmed the conclusion that the irritation of the skin produced by handling hyacinth bulbs was due to puncture by the numerous raphides on the scales. It appears that Roman hyacinths (Var. albulus) are particularly liable to produce the irritation. As to the use of the bulbs of this crystal armor, it is suggested that they are protective, and as a matter of fact, gardeners are aware that snails will avoid hyacinth bulbs, but will attack others growing close by.

Chancre of the Tongue

Dr. Lucien Lofton, in the *N. Y. Med. Jour.* (Feb. 13, 1897), reports a case of the affection occurring in a choreic child seven years of age. The point of infection was the right side of the frenum, where the child had been bitten. The case presented all the acute symptoms of infection, viz.: Enlargement of the submaxillary glands, post-cervical adenitis, malaise, dysphagia, headache, and anorexia. There was no hereditary history. Under treatment with 1-6 grn. doses of proto-iodide of mercury after meals the child made a rapid recovery.

The Alterations in the Blood Produced by Syphilis

J. Justus (*Brit. Jour. of Derm.*, February, 1897), as the result of a series of investigations made during the last five years, has conclusively shown that in the exanthematous stages of acute syphilis the hemoglobin is in much less amount than in health. This diminution takes place slowly, reaching its lowest limit when the secondary symptoms are manifest. Syphilis, in its acute stages, destroys the hemoglobin in a greater or less degree. The loss is gradually made up as a cure is effected, either by remedies or spontaneous resolution. The article is illustrated by charts, showing the daily variations of the vital elements of the blood.

Some of the conclusions are as follows:

Syphilis, if untreated, reduces the hemoglobin, which diminution is compensated by degrees as the disease undergoes spontaneous involution.

If a syphilitic patient absorbs a fairly large amount of mercury, the quantity of hemoglobin will be observed to sink rapidly and considerably. This decrease will be restored, but may again sink on repeated administrations of mercury, but ultimately the hemoglobin will reach a much greater amount than before the commencement of treatment.

The rapid and characteristic sinking of the blood element after the adminstration of mercury is a specific phenomenon.

Malignant Syphilis

Albert Neisser, in a very exhaustive article (*The Brit. Jour. of Derm.*, Jan., 1897) on the above subject, puts forth some original views. Quoting from his introduction, "By the term 'malignant syphilis' we understand a severe form of the disease characterized by certain symptoms differing rather in their nature than in mere severity from the usual forms of the malady. Every case of severe syphilis must not be included under the designation of 'malignant'—as, for instance, dangerous from the character of organ attacked, or early and severe ulcerations in the secondary stage." For malignant cerebral syphilis, there is no better method of treatment than the combined (Mercury and iodide of potassium).

Syphilis Successfully Treated

Elmer Lee (*New York Med. Times*, Feb., 1897, p. 39) asserts that the important indication in the treatment of syphilis is to sustain the natural resisting forces against auto-infection.

Regarding the use of water in syphilis, the doctor says: "It is perhaps rash to controvert the position of the general profession in its attitude favoring the use of mercurials in the treatment of syphilis. But it matters not. The only concern of the physician is to know the truth." The doctor claims his position regarding the cure of syphilis by water to have "been gained by actual clinical experience."

In his opinion, many of the cures wrought at Hot Springs and like places, depend greatly upon the quantity of water imbibed.

OBSTETRICS AND GYNECOLOGY

**Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. DeForest, M.D., H. T. Hotchkiss, M D.**

Treatment of Dysmenorrhea

A. Lapthorn Smith (*Canada Medical Record*, Jan., 1897) says that of 3300 cases (2270 in the Montreal Dispensary, and 1030 in private practice), almost one-fourth of all the patients complained of dysmenorrhea, found oftenest in unmarried girls, next oftenest in married women who have not had a child, next in married women with only one child and subsequent scanty flow, and least frequently among married women with several children and excessive and prolonged menstrual flow.

"Why do unmarried girls suffer in the greatest number from menstrual pain?" Evidently because there are more of them who have stenosis uteri, which is relieved by a pregnancy, that entails a rest from menstruation and widening of the uterine canal. But, also, because the congestion of one menstruation is not fully relieved at the time, but is carried over to the next period, thus causing thickening of the external layers of the ovary, swelling of the mucous membrane lining the uterus, and blocking up of the canal. This is so to a greater extent in married childless women than in girls unmarried, because of the congestion of intercourse being added to that of menstruation. Pregnancy cures the majority of cases, not only of stenosis of the uterus, but also of congestive dysmenorrhea.

Married women, mothers, who suffer from dysmenorrhea, may never have suffered before marriage, in which case a septic or gonorrheal endometritis was probably acquired during or soon after the first confinement, leaving swollen cervical glands, or diseased ovaries and tubes, though perhaps not enough so to prevent a subsequent conception.

Those who lose profusely with severe suffering, probably have displacement interfering with circulation, the veins retaining blood, causing swelling and sensitiveness of generative organs, with painful expulsion of clots at the menstrual periods.

"What is the best treatment of dysmenorrhea due to stenosis of the cervical canal?" His own procedure is:

1. Improve the circulation of the uterus by curing constipation, by exercise in open air and sunshine, and correcting errors of diet and dress.

2. Relieve the spasmodic contraction of the sphincter of the internal os by 10 grn. of acetanilid, three times a day, if necessary, for one or two days. Combine it with strong coffee, citrate of caffeine, or weak whiskey, to keep the circulation up where otherwise alarming symptoms might be caused. It relieves in almost every case. Opium and alcohol must be avoided. A hot hip bath for half-an-hour, splashing the lower abdomen while sitting in the hot water, suggested by Sir Wm. Hingston, is available for some cases to relieve spasm.

3. Failing these, examination of uterus must be made, and resort to the negative pole of the galvanic current. An account of nine cases of severe dysmenorrhea cured by this means, appeared five years ago in the *American Journal of Obstetrics*. Three of those cases afterward bore children, after a sterility as long as ten years after marriage. Dr. Wm. Gardner, of Montreal, had, previous to that, obtained similar results from the same treatment. The detail of method is given in the author's "Disorders of Menstruation," in the "International System of Electro-Therapeutics." A cervix previously resisting stubbornly the passage of a sound, will, under the electric treatment, allow it to glide into the uterus with ease. In most cases the second or third period following the treatment comes on without the patient's knowing it. If it fails, the author has usually found some disease of the appendages.

4. For those who do not know this electrical method, the next best resort is rapid dilatation. The author has 300 cases, with 100 of them failures, by this method, employing, first Wylie's and afterward Goodell's dilator. Deep narcotization, thorough asepsis, and utmost care, however, will not prevent occasional accidents by this method, such as general peritonitis, perforation of posterior wall of uterus, lacerations of the cervix, pelvic peritonitis—all of which have come into the writer's experience. The dilatation must be done thoroughly, at least half-an-hour, to the extent of half-an-inch, while sterilized irrigation is going on over the field of operation, and must in every case be followed by curetting, especially of the thickened mucous membrane around the internal os, whose valve-like action prevents the menstrual outflow. Coat liberally the whole inside of the uterus thus treated with equal parts of Churchill's iodine and carbolic acid, to secure antisepsis and to cure endometritis. Failing on one trial, repeat at least once more. Amputate a long cervix by Schroeder's method, but do not employ a stem pessary.

If all these methods are tried unsuccessfully for a year, then the *dernier ressort* is operation for incurable disease of ovaries and tubes. In five per cent. of his cases, forty in all, he found such last resort to reveal sufficient cause in the appendages, in most, the tubes being bound down with adhesions and closed at one or both ends. In eight cases he found a hydrosalpinx.

A small group of six cases of severe dysmenorrhea he found to be due to retroversion with fixation, ovaries buried in adhesions, and the fimbriated ends of the tubes closed. In them he freed the uterus, dug out the tubes and ovaries from the cul-de-sac of Douglas, and tore the pavilion of the tube off the ovary, and opened it up, and finally fastened the uterus to the abdominal wall. These, all but one done recently, are menstruating without pain.

To sum up: 50 per cent. were cured by rapid dilatation and curetting; 12½ by electricity, negative pole; 5 by removal of appendages; and 7½ were lost by going to other institutions, where most of them eventually had the appendages removed.

Congenital Teeth—Three Clinical Cases

Dr. J. W. Ballantyne (*Gaceta Médico Catalona*, Dec. 15, 1896) concludes an article on this subject as follows:

1. Congenital teeth form a rare anomaly, which for a long time has been known to physicians and the laity.
2. Their presence exercises an evil effect upon lactation, in part by the effect of the imperfect occlusion of the child's mouth, and in part by wounding the mother's nipple; it can also originate sub-lingual ulceration. Infantile diarrhea and general atrophy are the most remote consequences. At times, however, the symptoms are absent.
3. Congenital teeth have little or no prognostic significance, as to the corporeal or mental vigor of the child that presents them.
4. The teeth usually found are the lower incisors; at times the upper incisors and very rarely the molars of the inferior or superior maxillas.
5. In some cases we have a history of heredity.
6. As congenital teeth ordinarily are incomplete and badly developed, and apparently are inconvenient rather than advantageous to the child, it is recommended to practice their avulsion shortly after birth—an operation which can be easily executed, excepting in very rare cases, and which is free from complication.
7. The appearance of premature teeth in certain well-known historical personages is an interesting fact, whose importance, on the other hand, has been greatly exaggerated.

Hysterectomy for Fibroid, Carcinoma, and in Pregnancy, After Ligation of the Anterior Trunk of the Internal Iliac Artery

Polk (*Amer. Gyn. and Obst. Jour.*, 1896, Vol. IX, No. 1) says that this operation involves such an amount of interference with the floor of the pelvis that it is rendered not only difficult, but for very many people practically impossible, unless a bloodless field be secured. It should also be done at the earliest possible moment, and not only that, but it must be so adapted as to include not merely the lower segment of the uterus, but also the upper portion of the vagina and the cellular tissue outside.

Even ligation of the internal iliac will not prevent in all cases bleeding from the posterior vaginal wall, since the author made out in his dissection that there is in all cases a vessel which comes to the uterus below the utero-sacral ligament—in some instances larger than others—and which is a branch of the middle hemorrhoidal.

The operation, as applied in hysterectomy for fibroids or in pregnancy (a substitute for Porro's operation), will have no place except in the few instances where the vessels cannot be reached easily at the sides of the cervix.

As applied to cancer of the uterus, especially of its lower segment, the author believes it to be the operation of the future. The essence of the operation in cancer is not only to secure the vessel, but to free the ureter.

The operation is not particularly difficult, except in fat subjects.

In performing the operation, ligate and separate the ovarian vessels and round ligaments as in any other hysterectomy. Lift up and open the cut surface of the broad ligament at the sides of the pelvis. Draw back the posterior portion of this, cut the surface, then with the finger and handle of a scalpel separate the peritoneum from the pelvic wall; this brings one to the internal iliac artery. Follow it to its bifurcation, separate and isolate the anterior trunk, and tie it.

In about one-fourth of all the cases the obturator artery gives off the uterine, the former then springing from the posterior trunk; running directly forward just below the anterior trunk, however, it can be included in the same ligature with the anterior trunk.

If one confines himself to the use of the finger and the handle of the scalpel in this isolation, there is no danger of wounding a vein.

As soon as the ligation is completed the operator proceeds to the removal of the uterus.

If the operation be undertaken for cancer, the ureter should be dissected, upon a director, from its place in the broad ligament. The ureters being now held aside, the uterus and as much of the vagina and infected tissue as is necessary are then removed.

Gonorrheal Labor

H. Leaman (*Am. Gyn. and Obstet. Jour.*, 1896, No. 2) believes that pains connected with pregnancy, and preceding labor from two to six weeks, or even longer, frequently becoming so severe as to lead the patient to send for her physician, under the impression that labor has really set in, are due to uterine irritation, originating in an inflamed and lacerated cervix and frequently with the adjunct of mild gonorrheal infection. Furthermore, that in gonorrheal labor, the pains are usually severe and really accompanied by genuine uterine contractions and a decided effort at dilatation, which after continuing a few hours, subside entirely for a few days or weeks. A profuse irritating discharge, with burning in passing water, accompanied this condition.

Three cases are given in detail, which though not sufficient to prove anything beyond a doubt, still show a uniformity in their testimony to an abnormal interference with pregnancy, and agreeing in the clinical fact that they were gonorrheal in origin, as shown by the ophthalmia in two cases. In the third, the patient confessed to the pains having followed a connection, the discharge in this latter case being very profuse and irritating.

When suspicion arises in case giving a clinical history as above, the treatment should be thorough cleansing before, during, and after labor, with prompt treatment of the eyes of the child after birth.

Ichthyosis Uteri

E. Ries (*Am. Gyn. and Obstet. Jour.*, 1896, No. 2) in a study of the epithelium of the uterine mucous membrane, describes various deviations which may be considered pathological.

Having reference to a rare condition termed "ichthyosis uteri," the following rules are laid down, from personal observation, microscopical and otherwise.

The clinical symptoms of ichthyosis are not sufficiently clear to enable one to found a diagnosis on them. Discharge and light hemorrhage, the usual symptoms, can as well be produced by cancer of the body, and several other conditions, as by ichthyosis.

If a uterus be curetted, and the scrapings be examined microscopically, we may find only stratified epithelium, which will not enable us to give a diagnosis of either cancer or of ichthyosis, but we must reserve our opinion if the epithelium itself does not contain some further clews as to the nature of the disease.

If the stratified epithelium be found limited to the surface, or penetrating only into the mouth of the glands, the diagnosis must be ichthyosis.

Should the microscope reveal cords of pavement epithelium penetrating into the tissues of the mucous membrane, or even into the muscular wall of the uterus, the diagnosis must be one of cancer, and a speedy removal of the uterus is indicated.

Finally, squamous epithelioma of the uterus does not necessarily originate in previous ichthyosis of the uterus, but squamous epithelioma of the cervix may spread over the mucous membrane of the body, or the cancroid of the body may be a metastasis of a cancroid of the cervix.

A Case of Acute Uterine Inversion

W. Lindley (*Pacific Med. Jour.*, 1896, No. 6, p. 400) records an interesting case, the patient being a primipara.

While kneading the fundus through the abdominal wall, in endeavoring to hasten delivery of the placenta, the fundus suddenly disappeared, the placenta at the same moment popping out, followed by alarming hemorrhage. Examination revealed a large tumor at the introitus vaginæ.

By pressure upon the center of the prolapsed fundus, by means of the tips of the fingers, held conically, the uterus was, after five minutes, returned to its normal relations. Hemorrhage continued to be alarming, associated with uterine inertia. Hypodermic injection and administration by the mouth of ergot, with intra-uterine irrigating of hot water, had little effect; irrigation with acetic acid, six ounces to three quarts of hot water, however, brought on uterine contraction, and the hemorrhage gradually ceased.

On Intra-Uterine Typhoid and Mixed Infection of a Living Fetus

H. Dürck (*Münchner med. Woch.*, 36, 1896), cites the case of a pregnant woman with typhoid whose new-born child died soon after birth. Thorough examination of the child was made seven hours after death. The liver and spleen were enlarged and the peritoneal cavity contained a purulent fluid. The staphylococcus pyogenes albus and bacillus typhosus were obtained in pure culture from the spleen and liver.

Recurrent Sarcoma of the Mammary Gland Treated by Coley's Fluid With a Fatal Result

A. Marmaduke Sheild (*Brit. Med. Jour.*, Jan. 23, 1897) reports a case of this sort occurring in a nurse, aged 44. The characters of the fluid used for injection are noted thus: (1) The fluid was cultivated by Dr. Slater, and proved sterile. (2) Just after the last injection an injection of equal magnitude was made in a case of carcinoma, with but slight effect; the fluid was taken from the same bottle. (3) The fluid was obtained from the British Institute of Preventive Medicine, and was prepared by mixing the toxins of erysipelas and the bacillus prodigiosus. It was twice cultivated and found to be sterile. In a period of twenty days the patient received 25 minims of Coley's fluid as follows: First day, 1 minim; second day, 2 minims; third day, 2 minims; fourth day, 3 minims; sixth day, 3 minims; eighteenth day, 6 minims; nineteenth day, 6 minims. The symptoms observed in this case were thus summarized: Smart reaction followed the first two injections. After that, three injections made in increasing quantities failed to have effect. After a week's interval severe reaction was again established. The injection caused undoubted shrinkage and apparent disappearance of the growth. This seemed due purely to inflammatory action in a soft neoplasm, rather than to any purely specific action of the fluid itself. The fatal organisms probably developed in the necrosing tissues of the growth.

At the postmortem, signs of general pyemia were apparent. Secondary abscesses and infarcts were found in the liver, myocardium, kidneys, and right knee-joint. The growth beneath the clavicle was necrotic, and it was particularly important to note that beneath the site of the two nodules which has disappeared was some purulent infiltration of the thoracic muscles. A bacteriological examination revealed the presence of the staphylococcus aureus in the secondary abscesses, though the original fluid was prepared from streptococci. There were no visceral deposits of sarcoma.

Supravaginal Hysterectomy for Impossible Labor, with Intrapelvic Treatment of the Stump

E. P. Davis (*Am. Jour. Med. Sci.*, 1896, No. 5) considers the choice of operation between symphyseotomy, celio-hysterotomy, and celio-hysterectomy. In the last of these the surgeon must discriminate between intrapelvic and extrapelvic treatment of the stump. The author also presents in detail the history of three cases operated upon with intrapelvic treatment of the stump.

The field of symphyseotomy is limited, not only by the degree of disproportion between mother and child, but also by the size and development of the soft portions of the birth-canal. When the degree of disproportion is moderate, and the birth-canal fully developed, symphyseotomy will save the lives of many children, with a minimum risk to the mother.

In making the choice between celio-hysterotomy and celio-hysterectomy, the nature of the operation should be explained to the patient, and her wishes consulted as regards future procreation. In women of good constitution, and happily married few will be found who will not desire to retain their power of reproduction. In women illegitimately pregnant, or belonging to the class of professional paupers, these having little conception of the responsibilities of maternity, the continuance of reproduction is certainly to be avoided.

The author favors the intrapelvic treatment of the stump as the most desirable and favorable form of operation. Recovery followed each of the cases detailed.

Finally, where the child cannot enter the birth-canal, the forceps is certainly contraindicated; and delivery must be by symphyseotomy or abdominal incision.

Puerperal Eclampsia

Jones (*Med. Rec.*, 1896, No. 17) offers the following résumé:

Puerperal eclampsia is due mainly to the non-elimination from the system, of the pregnant woman, of toxins which are the direct and natural product of physiological processes incident to her condition, and the nervous tension of the pregnant woman predisposes to the disease.

Convulsions occur in women, whether albuminuria exists or not.

We have medicines powerful for good. In the actual presence of convulsions we should endeavor to overcome them by the use of proper medicines and remedial measures; notably by the use of Norwood's tincture of veratrum viride, given in from 5- to 10-minim doses, hypodermically, and combined with morphine; chloral and chloroform, rather than appeal to the rapid emptying of uterus.

At the end of the eighth month, especially, if the patient suffer from severe premonitory symptoms, and if such persist in spite of treatment, premature labor should be induced in the interest of both mother and child.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Diabetes Mellitus of Birds (Ducks and Geese) After Extirpation of the Pancreas

W. Kausch, in the *Arch. f. expt. Path.* (1896, XXXVII), says that the results of numerous experiments upon the occurrence of glycosuria after extirpation of the pancreas in birds are contradictory. For this reason the author has studied the question anew in experiments upon ducks and geese, at the same time paying particular attention to the relation of blood sugar and glycogen storage in the liver. The method of total extirpation is first accurately described. Because of anatomical relations, he generally removed a part of the duodenum also. The animals operated on manifested an increased desire for food but no pronounced thirst, and in general the emaciation was progressive until death finally occurred from exhaustion—often quite suddenly—at the latest on the fiftieth day after operation. In order to determine the relation of blood sugar in the animals deprived of the pancreas, the author first determined the quantity in *normal* geese and ducks; in these it varied between 0.12-0.18 per cent. (average 0.14-0.15 per cent.), no matter whether the animals were in a state of fasting or fed upon different foods, or whether they were vigorous or weak.

Removal of the pancreas alone (seven experiments) had no distinct effect; on the other hand, in the great majority of the cases (in all eighty-three experiments are reported) in which the pancreas and duodenum were extirpated, an *increase* up to 0.7 per cent. was observed. In but seven experiments of the eighty-three the amount was unaltered. An influence of diet upon the degree of glycemia could not be determined with any distinctness. In spite of augmentation of the blood sugar, *glycosuria* was observed but six times in seventy-six experiments on ducks and three times in twelve experiments on geese. The occurrence of the latter, therefore, is not directly dependent upon the percentage of sugar in the blood, which is proven by the fact that in the cases with the *highest* blood sugar content *no* glycosuria occurred. Aside from administration of sugar, different kinds of diet had no influence upon the glycosuria. By feeding with sugar, slight (alimentary) glycosuria could be produced in those animals in which pancreas extirpation failed to do so, and existing glycosuria was increased. In normal ducks, on the other hand, alimentary glycosuria could not be induced.

It appeared to be important to study the *glycogen content* of the liver and muscles in the animals deprived of the pancreas. Twenty-four hours after extirpation of the pancreas, little or no glycogen is to be found in the liver; in the muscles it disappears more slowly. While repeated administration of small quantities of sugar increases the amount of glycogen in the liver of normal animals, those deprived of the pancreas cannot store up glycogen after ingestion of glucose, but after ingestion of levulose they can. That a disturbance of sugar *absorption* is not the cause of the absence of liver glycogen, is shown by the fact that liberal ingestion of sugar leads to an extraordinary increase in blood sugar in animals deprived of the pancreas—in one of the author's experiments as high as 3.8 per cent. Such animals passed into a state of coma in which they died.

The author does not hesitate to designate as diabetes the condition produced in birds by pancreas extirpation, and he considers the suspended capacity of glycogen formation in the liver as the primary disturbance and the cause of all the remaining phenomena.

The General Pathology of Bone

W. G. Spencer, in the *Lancet* (No. 3798), gives a detailed account of the form, growth, and pathological changes of bone. A general summary of the points dealt with is as follows:

1. By a consideration of certain pathological conditions in the light thrown upon the development of bone by comparative physiology and embryology, a relationship can be found between the bone-forming cells and epidermal structures, and between the bone marrow and lymphadenoid tissue, which explains the sympathy or co-existence of disease.

2. Alterations in the circulation affect bone: (*a*) a full normal supply favors bone formation of a normal kind; (*b*) an excessive arterial supply leads to decalcification and absorption; (*c*) a diminished supply checks the normal rate of bone formation, absorption going on, and "eccentric atrophy" is the result; and, (*d*) an excessive supply of venous blood, venous congestion, causes pathological bone formation. The parts of bone most subject to an excess of the arterial or venous circulation are, during the earlier years, the epiphyseal ends of grow-

ing bones, and during later life the parts of the bones most subject to pressure and to the pull of the muscles.

3. The nerve influence on bone appears to be regulatory in action; when disturbed, the formation of bone may be either in the direction of excess, or defect, or of both combined. It transforms bone so as to accommodate structure to altered function.

4. Impairment of the general nutrition decidedly influences bone by diminishing the rate of formation, and its effect will differ according to age and the various incidents accompanying the different stages of life, such as childhood, puberty, pregnancy, old age, etc.

5. For the new formation of bone, the normal process of ossification holds good, and the presence of osteogenetic cells, lime salts, and a sufficient blood supply is necessary. Granted the artificial supply of one, two, or all three of these factors, when they chance to be deficient, the new formation of bone may be brought about. A distinction must be drawn between bones, such as the skull, where the periosteum is naturally inactive, or where it has been destroyed, and periosteum which can be re-awakened to activity.

6. New growths which widely affect the bones serve as further illustrations of the points before noted; the conditions are not essentially different from those present in other diseases, such as inflammation, only they are more complex.

In conclusion, the author admits his inability to describe so sharply any general disease of bone as to separate it from others. When considering any particular case, he thinks it advisable to group the pathological changes under a division similar to his classification.

Absorption of Fluids from the Connective-Tissue Spaces

Ernest H. Starling (*Jour. of Phys.*, XIX, No. 4, pp. 312-325) draws the following conclusions:

1. Salt solutions, isotonic with blood-plasma, can be and are absorbed directly by the blood-vessels. This statement probably holds good for dropsical fluids containing small percentages of proteids.

2. A backward filtration into the vessels is mechanically impossible in the connective tissue of the limbs, of the muscles, and of the glands similar in structure to the submaxillary.

3. The proteids of serum have an osmotic pressure of about 30 mm. to 44 mm. mercury. Absorption of isotonic salt solutions by the blood-vessels is determined by this osmotic pressure of the serum proteids. The same factor is probably responsible for the absorption from the tissues which ensues on any general lowering of capillary pressures, e. g., artificial anemia.

4. The proteids of the tissue fluids, when not used up in the tissues themselves, are probably absorbed mainly, if not exclusively, by the lymphatic system.

It is evident that if we translate the term "molecular imbibition" of Hamburger by osmotic pressure of the proteids of the tissues and blood, the explanation of absorption given in the above is practically identical with that proposed by this observer. In Hamburger's latest contribution to the subject, the question is obscured by a mechanical illustration which can have little or no significance for the process of absorption by the blood-vessels. In this experiment he has two concentric tubes, the outer one of glass, the inner one of gelatin in the meshes of a nickel gauze cylinder. On filling the outer tube with serum, and leading serum through the inner tube, he notices that the outer fluid becomes more concentrated, and that fluid is taken up by the serum passing along the inner tube. On referring to the conditions necessary for the success of the experiment, one sees at once that the pressure in the inner tube must be lower than the outer tube, so that Hamburger is really, in this experiment, imitating transudation rather than absorption. An absorption which depends on the extravascular pressure being higher than the intravascular pressure, is mechanically impossible in the case of most of the connective tissues of the body.

Changes in the Spinal Cord Due to Experimental Antipyrin Poisoning

Massetti (*Rivista sperimentale de Freniatria*, XXI, p. 668) describes experiments undertaken upon dogs who were poisoned for a period of some months by gradually increasing the doses of antipyrin until 2½ dr. had been given. This dose generally resulted in death, accompanied with extreme emaciation and paralysis of the lower half of the body.

The effects of the drug upon the cord were primarily to increase the reflexes; later, the gait became spastic and quite uncertain.

Histological examination showed that there was marked degeneration of the crossed pyramidal tracts, and of the posterior columns.

The Granular Leucocytes

G. L. Gulland (*Jour. of Phys.*, 1896, XIX, Nos. 5 and 6, pp. 385-412) says that leucocytes, whose finer structure is to be examined, must be fixed by reagents, of which the best is sublimate; drying is unreliable, as it does not preserve details of structure.

It is impossible to divide leucocytes into a hemal variety and a celomic variety, for (1) lymphocytes are the precursors of all forms; (2) leucocytes are not present in the blood in early fetal life; (3) they are constantly passing from blood to connective tissue, and *vice-versa;* (4) mitotic reproduction of leucocytes takes place almost entirely in adenoid tissue. It is only their size which prevents the largest hyaline, eosinophile, and basophile cells from appearing in the blood.

M. Heidenhain's observations on the relative positions of nucleus and centrosomes are correct. The "organic radii" are not entirely separate from one another, but are connected at every microsome by subsidiary threads. The nucleus does not lie free in the interfilar spaces, but its linin network is connected with the cytomitoma, and the two are perhaps to a certain extent interchangeable. This would explain the variety of arrangement of the nuclear chromatin, and the co-ordination in movement of the cell-body and nucleus.

The shape of the nucleus has no relation to the presence or absence of granules in the cell-body, but depends on (1) the relative sizes of the cell-body and nucleus (according to Heidenhain's law); (2) the position of the centrosomes; (3) the condition of the rest of movement of the cell.

All varieties of leucocytes are merely stages in the development of a tissue. They may be divided for convenience, and with regard to the presence or absence of granules, into three main groups—the Hyaline, Acidophile, and Basophile. These forms are all derived from the lymphocytes, which are the daughter-cells derived from the mitosis of all leucocytes (except the largest granular forms). From the lymphocytes, or from the small hyaline forms, the three groups branch off.

I.—The cells may remain Hyaline, and attain their maximum development in such cells as the large phagocytes of the alimentary canal, or the giant-cells of bone-marrow. In this case they remain sluggishly ameboid, their centrosomes are very evident, and the cytomitoma and microsomes, while visible, are not easily made out.

II.—In the Acidophile group are included the so-called neutrophile and amphophile cells, which are really oxyphile, and the eosinophile or coarsely granular cells. In the transition-forms from the small hyaline cells to the oxyphiles, the mitoma of the cell-body becomes more visible, and it is this, rather than the presence of granules, which gives rise at first to the finely granular appearance. The granules are simply the microsomes of the mitoma. In the transition-forms between the oxyphile and eosinophile cells, some of the microsomes become larger and take up acid dyes and iron-hematoxylin better than others, and when the large eosinophiles are reached, the threads of the mitoma have become thicker, and also take up iron-hematoxylin. The microsomes in the eosinophiles vary greatly in size; they are arranged subradially, with the largest microsomes usually at the periphery. In this group the centrosomes are well seen—better in the eosinophiles than in the oxyphiles.

III.—The cells of the Basophile group vary immensely in size and shape. The nucleus is generally ellipsoidal, except when the cells are actively ameboid, probably because the cell-body is usually relatively large. As the cells increase in size, the amount of basichromatin in the nucleus becomes increased out of proportion to the size of the nucleus. This has no relation to mitosis, which has only once been observed in these cells. The centrosomes can be seen fairly easily in the smaller rounded forms. In the larger forms they are difficult to make out, and it seems possible that there may be several subordinate centrosomes. These cells are derived from the small hyaline forms by an increased visibility of the mitoma, and an increase in size of the microsomes, which are at first usually very irregular in size, and do not exhibit metachromasia with methylene-blue. As the cells become larger, so, generally, do the granules; they become more uniform, but are never all quite of one size. Metachromasia becomes more constant, and the mitoma more evident, especially in those cells which seem to be moving, or which are greatly branched. The staining of the microsomes is never quite the same as that of the nuclear chromatin.

The granules of leucocytes are therefore *not* products of the metabolic activity of the cell embedded in a structureless protoplasm, as was hitherto supposed, but represent an altered condition of the microsomes. They always form part of the cytomitoma, and are therefore plasmatic, and not paraplastic. They are probably concerned with ameboid movement, and they and the rest of the mitoma are more visible the more active the cell.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.

The Suprarenal Capsules as a Cardiac Stimulant

The action of the suprarenal capsules upon the vascular system was first studied by Schymonowitz and Cyboulski in Austria, and by Oliver and Schäfer in England. They established the fact that minute doses of an aqueous or glycerin extract of the capsules when injected into the veins produced a considerable increase in the blood-pressure. The more recent experiments of Gottlieb and those of Mankowski, pursued at the laboratory of Professor Podwyssotzky, in Kieff, and described in the Russian *Archives of Pathology,* demonstrated beyond question that the elevation of the blood-pressure is due to a direct stimulant action of the suprarenal extract on *the cardiac ganglia,* and that that stimulant action is of remarkable power. In animals completely anesthetized by the intravenous injection of chloral, with irregularity of the pulse and frequent stopping of the heart-beats, it was possible to keep up the heart action for several hours, by the aid of the injections of the extract, and the experiments were successful in restoring the heart action even when undertaken *five minutes after the action of the heart had completely ceased.*

Podwyssotzky says that in the extract of the suprarenal capsules (the active principle of which he calls stimuline) we possess a powerful agent for stimulating the heart in cases of collapse, shock, chloroform accidents, etc., and in all cases of imminent death.

Incidentally those experiments show plainly why in Addison's disease, where the suprarenal capsules, being atrophied or diseased, no longer produce their active principle, there is such profound asthenia and cardiac weakness.

Formaldehyd in Eye Disease

Dr. Strscheminski, in *Deut. med. Ztg.* (1896, XVII, p. 991), says that formaldehyd is found to possess so much value in surgery and gynecology, that Valude was induced to apply it in eye diseases as well, and the excellent results obtained by him have led many, among them the present writer, to make use of this agent in similar cases. At first he employed 0.05-per-cent. solutions, but the strength was gradually increase to 0.1-per-cent. The solutions were dropped in liberal quantities into the conjunctival sac, and in purulent conjunctivitis the conjunctiva was washed *with the solution.*

These applications cause a rather intense burning sensation; but this disappears in about a minute, and at each succeeding application becomes less and less intense, resulting finally in habituation to the smarting.

In catarrhal conjunctivitis, formaldehyd is inferior to other methods of treatment. At times it appears to be of benefit in chronic conditions, replacing the remedies that had been in use so long that the system had become habituated to them, and shortening the duration of the disease. In the acute stage of trachoma, formaldehyd is of but little value; while in the chronic stage it is useful, for the same reason as above stated.

In corneal ulcers formaldehyd exerts a most beneficial influence. In five cases of ulcus serpens that had resisted all other medication, the condition was immediately improved by the application of this remedy. The infiltration at the margins of the ulcers disappeared in a few days; the ulcers stopped spreading, became clean, and healed completely in from seven to ten days. In one case hypopyon which was present disappeared in four days.

In all other infectious affections of the cornea (abscesses, and ulcers with or without hypopyon), particularly when torpid, formaldehyd exerted an excellent effect, but still not so good as in ulcus serpens.

Codeine in Neurasthenia

According to Dr. Otto Dormblüth, of Rostock, codeine is the most valuable remedy yet applied in the treatment of neurasthenia, in which hyperesthesia, mental agitation, and sensations of fear exist. It is given in tablets of 0.02 gme. (⅓ grn.) each, one of which is taken after dinner and supper. The restfulness desired serves as a measure of the dose; usually about 0.4 gme. (6 grn.) of codeine phosphate are required per day, but in many cases this quantity is frequently exceeded.

An advantage offered by the use of codeine is that no habit is formed, such never having been noticed among the numerous patients treated.

Not only has the author found codeine to be a narcotic, but to be a powerful tonic and alterative for the nervous system. He has in consequence used it in bronchial asthma, writers' cramp, convulsive cough, migraine, stuttering, etc., that is to say, in spastic or spastic-co-ordinating neuroses, and at times with brilliant results.

In these cases, isolation and continued rest in bed are only necessary when the general condition demands them; on the other hand, the water-treatment, faradization, galvanization, and in special cases general massage, considerably further the general result. It may also be assumed that the action of nervines is somewhat modified, when these valuable influences are simultaneously brought to bear on the nerves.

Quinalgen in Children's Diseases

Dr. Moncorvo, in *Med. Week* (1896, IV, p. 547), states that he has administered quinalgen (analgen, benzanalgen) to 59 children, of whom 33 suffered from malaria. The dose varied between 25 ctg. and 3 gme. in the twenty-four hours, and was given in syrup or in cachets. In the majority of the cases, the fever was cut short by this treatment. The remedy was invariably well borne, both in the case of infants and older children. Quinalgen may therefore be regarded as a good substitute for quinine.

On the other hand, in two cases of acute tuberculosis, the administration of this substance was obviously beneficial in that the temperature fell and the cough decreased.

Equally favorable results were obtained in a case of gonorrheal arthrosynovitis, in two cases of hysteria, in a case of chorea, and in a number of other cases.

Colchi-Sal in Gout and Rheumatism

Colchicein methyl salicylate, bearing the commercial name of colchi-sal, has been pronounced by Dr. Geo. W. Tobias, in the Kansas City *Medical Record* (March, 1897), an elegant and perfectly safe preparation of colchicum and methyl salicylate. He says that in his hands it has never failed to produce desired results, while colchicum preparations and the salicylates have, by their uncertainty, come to be looked upon with suspicion. Colchi-sal is dispensed in capsules of 20 ctg. each, containing ¼ mg. of the active principle of colchicum. He cites several typical cases: The first had a history of rheumatism of several years' duration. When seen he was suffering from a four weeks' attack. Sodium salicylate and routine treatment had only enabled him to get around on crutches. Three capsules of colchi-sal every four hours, caused improvement the first day; on the third his crutches were given up, and on the tenth he returned to business. Two years have elapsed and there is no return of his trouble.

The second case gave a history of rheumatic arthritis and pain in the lumbar region, with contraction of the muscles around the joints. Alkaline and lithia treatment gave little or no result. With hot fomentations on limbs and back, one capsule of colchi-sal every hour during the day, and three at bedtime, there was a decidedly favorable change within thirty-six hours. The capsules were then reduced to two every three hours, and in ten days he was free from pain in the daytime, and nearly so at night. The final recovery was slow, but there has been no relapse.

The third case was that of a widow, aged 50, who, during damp weather, was troubled with pains in the joints, and great stiffness, which prevented her from stooping. Heart complications prevented the ordinary routine treatment, so colchi-sal was tried. Twenty ctg. every two hours gave prompt relief, and in two days she was well. Two or three capsules during rainy weather ward off the tendency that still lingers.

The fourth case was that of a gouty patient, in which colchi-sal acted wonderfully at a critical stage of the disease, which the consulting physician feared might be fatal. In none of the cases was there excessive catharsis, or other untoward results. Dr. Tobias' horse, being attacked with rheumatism, and unable to use its hind legs, on being treated with this remedy, was put all right in a few days. Mixtures of colchicine and salicylic acid do not give such favorable results.

Sozoiodole-Sodium in Diphtheria

In a communication from Dr. Rohden, of Chemnitz, the writer gives the result of the use of sozoiodole-sodium in a case of diphtheria. The result obtained was so very satisfactory that he was led to describe the means of application. This consisted of a cigar-holder provided with a goose-quill tip, and a small paper funnel, and the remedy was blown down the throat by this means. The writer states that the administration is very well liked by the patients, and that parents and nurses are both greatly pleased with the simplicity and certainty of the application. The writer has recommended this mode of treatment to numerous friends who are also now using it, and with very satisfactory results.

In severe cases the insufflation is made in quantities of a knife-point full every half-hour, even in children, and without the slightest effect on the general condition.

Urea as a Medicament

Dr. G. Klemperer (*Deut. med. Woch.*, XXII, p. 754) states that urea, given in large doses internally, often increases diuresis, and tends to keep uric acid in solution; these properties will therefore assure it a prominent position in therapy.

The diuretic power of urea has often led to its recommendation, theoretically, but it had never been given in the sufficiently large doses required to produce its proper results. Up to now, urea had not been used in practice, and no reference is made to it in any of the text-books or compends of pharmacology.

The writer has used urea as a diuretic in a number of cases, and usually in the following form:

Pure Urea	10 gme.
Distilled Water	200 gme.

Dose: Tablespoonful hourly.

When possible, this entire quantity is used up in one day; after two days, the amount of urea is increased to 15 gme., and two days later, to 20 gme. The remedy is almost always well borne. When the taste is objected to, the remedy is taken with a wineglass of milk or Selters water. The urea is administered for about two weeks, during which time from 200 to 250 gme. are taken; at times even larger quantities have been given, the largest being 920 gme. in sixty-five days, in a case of chronic myocarditis.

In a table of some of the cases treated by him, the author gives the results of the treatment of eleven cases of ascites in hepatic cirrhosis, seven cases of pleuritic exudation, thirteen cases of valvular lesions, seventeen cases of cardiac muscular affections, and nine cases of Bright's disease. The conclusions arrived at were that in renal affections, urea does not increase the diuresis; the best results were obtained in ascites and in pleuritic exudations; in cardiac affections the results varied, in some instances the diuresis being astoundingly large and the edema rapidly disappearing, while in others no effects were noticeable.

In spite of the number of the non-successes, however, the author advises a trial of urea in all cases of hydrops and ascites not of renal origin, and states that its effects are first noticeable two or three days after beginning the treatment; but if, after the fifth day, when about 50 gme. of urea have been given, no results are had, the use of the remedy should be discontinued.

Salicylates and Hemoptysis

Dr. Thomas J. Mays, in the *Phila. Polyclinic* (No. 43), calls attention to the value of the salicylates in the treatment of cases in which a profuse and persistent loss of blood occurs, and with which is associated the rheumatic or the gouty diathesis, and in which a careful examination probably fails to disclose any physical evidence as to the source of the blood in the lungs. Such hemorrhages seem to have a partiality for coming on at night, although this is not always the case, and the patient, in spite of treatment, gradually grows weaker, and may even die from exhaustion, or from acute or subacute pneumonia. But where close inquiry in such cases discloses, as it probably will, that rheumatism or gout has existed in the family, sodium salicylate, given in the following combination, has been found to exert a remarkable effect in checking the hemorrhage and promoting a general improvement:

Sodium Salicylate	4 dr.
Potassium Acetate	1 dr.
Tincture Digitalis	3 fl. dr.
Wintergreen Water	to make 4 fl. oz.

Teaspoonful four or five times daily.

The writer also finds that the salicylates are not only applicable in hemoptysis, but are of value in many other forms of chest disease, and that, whatever their modus operandi may be in establishing a cure in rheumatism and gout, there is no doubt that they exert the same kind of action in the relief they bring in pulmonary disease.

There is no intention of advising the use of salicylates in every case of hemoptysis, nor its substitution for other drugs, such as astringents, arterial sedatives, or cold applications; but the writer believes that in hemoptysis in which the rheumatic tendency manifests itself either in a latent or active manner, whether obscure or not, salicylates are specially indicated, and will exert an excellent influence on the course of the disease.

The Physiological Effects of Peptone

W. H. Thompson (*Jour. of Phys.*, XX, No. 6, pp. 455-473) draws the following conclusions:

1. Witte's "peptone," in doses below 2 ctg. per kilo, hastens coagulation of blood; above this dose it produces retardation, as others have found.

2. In doses as low as 15 to 10 mg. per kilo, this substance produces a fall of blood-pressure. Discrepancies between these results and those of other workers are probably to be explained by the rapid rate of injection employed by the present writer.

3. The fall of blood-pressure and vascular dilatation are produced by a direct or peripheral influence on the blood-vessels. No influence on the vaso-motor center has been proven.

4. The vascular dilatation is not confined to blood-vessels of the splanchnic area, but extends to other vessels also.

5. The peripheral dilating influence of this substance on blood-vessels is brought about by depressing the irritability of their neuro-muscular apparatus, rendering it irresponsive to vaso-constricting influences.

6. It is further probable that the depression of irritability is chiefly limited to the nervous segment of the neuro-muscular link.

Chemistry of the Thyroid Gland and the Nature of Its Active Constituent

R. Hutchison (*Jour. of Phys.*, XX, No. 6, pp. 474-496) makes the following propositions:

1. The thyroid contains two proteids—a nucleo-albumin and the colloid matter.
2. The nucleo-albumin is present in small amount, and is probably contained in the cells lining the acini. As far as it has been investigated, it does not differ from other substances of the same class.
3. The colloid is present in large amount, and is contained in the acini.
4. It contains a small amount of phosphorus and a considerable proportion of iodine.
5. It does not yield a reducing substance on boiling with mineral acid, nor can nuclein bases be obtained from it.
6. It is, therefore, neither allied to mucin, nor is it a compound of true nuclein.
7. Neither does it contain paranuclein.
8. On gastric digestion, it is split up into a non-proteid and a proteid part. This decomposition occurs very readily.
9. Both of these parts contain iodine, but the non-proteid much more than the proteid element. The former contains all the phosphorus of the original colloid.
10. The colloid matter may, therefore, be provisionally regarded as a compound proteid of peculiar constitution.
11. The ordinary extractives are present in the thyroid in fairly large amount. Whether any hitherto unknown amido-bodies are present among these, must be left still undecided.
12. The colloid matter is the only active constituent of the gland.
13. Both the non-proteid and the proteid parts of the colloid are possessed of activity, but the former in much greater degree than the latter.

Codeine in Diabetes

Dr. Talbot Jones, according to the *Indian Lancet* (1896, VIII, p. 233), had occasion to treat a female child of 19 months, who, upon examination, was found to be diabetic. Codeine was administered, and the diet regulated. The codeine promptly caused the sugar to disappear wholly at times from the urine (which was of high specific gravity), although it reappeared again, and markedly reduced the voracious appetite and inordinate thirst, in spite of the fact that the body-weight rapidly and progressively declined until death took place, in less than a month.

Sodium Bisulphate in Hay-Fever

The following formula has been recommended for hay-fever:

Sodium Bisulphate.............	1 part
Distilled Water	500 parts

To be used as a lotion for the nasal passages.

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Method of Removing Large Calculi from the Bladder

Freyer, in *The Lancet* (No. 3824), pronounces Bigelow's method, which consists in the rapid crushing of the stone and the complete removal of its fragments at one sitting by means of the aspirator and cannula, the safest and best for calculi of all sizes in patients of all kinds and conditions, provided only that this operation is feasible. When not practicable, he considers that calculi up to about three ounces in the adult, and a corresponding weight in the child, are best removed by perineal lithotomy; beyond that suprapubically.

Dr. Freyer states that six and one-eighth ounces is the largest stone he has removed by Bigelow's method. He advises that in no case should a stone, large or small, be subjected to a cutting operation till, after trial, litholapaxy is found not to be feasible.

The lithotrites used by Dr. Freyer generally vary from No. 4½ up to No. 18 of the English scale; but it is only the larger sizes, from No. 14 up to No. 18, that are of any practical use in dealing with these large stones. One lithotrite was constructed for him many years ago by Weiss, and it has crushed some 320 calculi. It combines the handle and locking action of Bigelow's lithotrite with the fully fenestrated blades of Weiss and Thompson. This ball-handle affords a much firmer grip to the hand than the old-fashioned wheel—a grip which is essential in dealing with large and hard calculi. The locking action is of the simplest character, the instrument being locked or unlocked by a quarter turn of the wrist, to the right or left respectively, and the left hand is free to grasp the female blade and hold it steady in the bladder during the various manipulations, so that the tilting of the instrument that is liable to occur when the button-locking action is employed is thus obviated.

The cannulæ required for large calculi in the adult vary from Nos. 14 to 18.

Dr. Freyer has worked chiefly with a simplified form of the aspirator which Bigelow used for some years before his death.

REVIEWS

The Diseases of the Stomach: By Dr. C. A. Ewald, Extraordinary Professor of Medicine at the University of Berlin, Director of the Augusta Hospital, etc. Translated and edited, with numerous additions, from the Third German Edition.—By Morris Manges, A.M., M.D., Assistant Visiting Physician to Mount Sinai Hospital, Lecturer on General Medicine at the New York Polyclinic, etc. Second Revised Edition. New York: D. Appleton & Co., 1897.

This work as it now stands is the best on the subject of Stomach Diseases in the English language. No physician's library is complete without it. It is in every way well adapted to the requirements of the general practitioner, although complete enough to meet also the requirements of the specialist.

The first two chapters are devoted to physiological considerations, and give methods of determining the kinds of acids present, the total amount of free acid present, the technique of the examination of the stomach and its contents, together with the determination of the digestion of albumen, sugar and starch. Then follow ten chapters devoted to the diagnosis, prognosis and treatment of all the usual pathological conditions of that organ, as well as the symptomatic states due to diseases of other organs. The Neuroses of the Stomach were deemed sufficiently important to give them three full chapters. These are classified as (1) Conditions of Irritation, (2) Conditions of Depression, (3) Mixed Form, and (4) Reflexes from Other Organs upon the Gastric Nerves. The difficulties of classification are pointed out, but pronounced insignificant when compared with the much more important fact "that all these various conditions rarely occur as distinct, independent diseases, but usually in groups, either appearing simultaneously or closely following one another during the course of the malady." The classification of the diseases of the stomach, according to the presence or absence of much or little acid, is a fashion that has been wisely avoided. Chemistry is not in any sense a royal road to the knowledge of gastric disorders, and the author very aptly concludes the volume by saying: "Only the most careful and thorough consideration and weighing of *all the symptoms* which can be obtained *with all the diagnostic resources* will enable us to recognize the existing disease. Not even the most careful chemical examination of the function of the stomach will put within our grasp the divining rod which will magically call forth the fountain of knowledge from the adamantine rocks of obscure symptoms." The typography, paper, binding and illustrations are all first-class.

Injuries and Diseases of the Ear.—By Macleod Yearsley, F.R.C.S., Fellow of the British Laryngological, Rhinological and Otological Association, etc., etc. London: Rebman Publishing Co., 11 Adam street, Strand; 1897.

This booklet of 40 pages is made up of papers which had appeared in the *Medical Times* and *Pediatrics*. The first interests us in giving a historical reference to the earliest account of the employment of artificial drum-membranes, for which device due credit is given the author's relative, James Yearsley. The second contains a word of caution and of help to the general practitioner about how to deal with foreign bodies in the ear, for example, not to indulge in sea-bathing without first putting into the ears plugs of cotton. In the fourth, the author attaches considerable therapeutic and diagnostic value to the pneumatic aural speculum. The fifth commends the advice of Dr. French, of Brooklyn, as to the early removal of adenoids for prevention of the ear complications they are apt to induce. For this operation he recommends the use of nitrous oxide gas in preference to chloroform to produce the anesthesia. The last chapter, devoted to aural reflexes, gives first a brief reference to the nerve-supply and distribution, next enumerates the common types with examples, and, lastly, emphasizes the value of their recognition in their true character. The volume is worth a good deal as a help to the general practitioner, because of the simplicity of its treatment, and it will even bear a perusal by the specialist.

Anatomy Descriptive and Surgical.—By Henry Gray, F.R.S. A new edition, thoroughly revised by American authors, from the thirteenth English edition. Edited by T. Pickering Pick, F.R.C.S. Lea Brothers & Co., Philadelphia and New York; 1896.

When we compare this edition with those that have preceded it we find that it surpasses them all in completeness, both as regards the text and in its illustrations. The addition of the partially colored plates, which has been a prominent feature of late editions, has greatly aided the student in fixing the dry anatomical facts and relations upon his mind.

Comparing this volume with that of our student days the change is most striking.

The sections upon the Brain, the Teeth, and the Abdominal Viscera have been rewritten to a large extent by the American editors, the first two by Dr. Gallidet, the last by Dr. Brockway.

Many of the minor errors that were frequently criticised by our teachers of Anatomy we are pleased to see in a very large measure corrected.

As a single volume of Anatomy there is little question that Gray's is fully holding its own among its many competitors, and it will easily maintain this position in the minds of the majority of medical students.

The typography and general make-up of the book are exceptionally good. We can only speak of the work of both editors and publishers in words of praise.

An American Text-book of Physiology.—Edited by William H. Howell, Ph.D., M.D. Fully illustrated Philadelphia: W. B. Saunders, 925 Walnut street; 1896. Price, cloth, $6; sheep, $7; half morocco, $7.

It is some years since a new and comprehensive physiology has been written by an American. This book represents the combined work of the most eminent teachers of physiology in this country.

It is divided into fourteen sections or chapters. The first is a general introduction, and the latter deal with the chemistry of the animal economy. The modern custom of placing chemistry at the end of physiology or in the form of an appendix instead of giving to it the first place, appears like a step backward. We realize that the chemistry of the body is perhaps the least entertaining to the mass of students, and yet it is the most essential. The tendency to ignore the chemical side of physiology, together with the division of the examinations of the medical students, so that they finish their physiology and chemistry in the second year of the graded course, causes them to look upon physiology as one of the bores of their early medical education. That this is an error is dawning upon many practitioners.

While Professor Howell is credited as editor, he is both editor and author of one of the most important sections, to wit: the digestive system, blood, and lymph. He has also written the chapters upon the chemistry of the nerves, muscles, and secretions.

We had hoped to find something more definite regarding the formation of the hydrochloric acid of the gastric juice. The theory that the proteid molecule is in part oxidized in the epithelial cells of the gastric mucous membrane with the formation of sulphuric acid, which then acts upon the sodium chloride with the formation of hydrochloric acid and sodium sulphate, appears quite as logical as any that has been advanced.

The statement that the "true digestive action of gastric juice on proteids is not now believed to be so complete as it was formerly thought to be," will be a new revelation to many who in the past have been taught that this was the chief digestive secretion, and who have, therefore, looked upon dyspeptic difficulties as being located in the stomach rather than in the intestines.

The older and prevailing opinion that the contents of the alimentary canal were always alkaline seems to be pretty conclusively disproved since the discovery of bacteriology and the observations that have been made with fluid obtained through intestinal fistulæ. While the secretions normally poured into the alimentary canal are alkaline, the bacteria that gain access to this canal have a strong tendency to excite fermentation in the food-stuffs, chiefly the carbohydrates, with the formation of organic acids that are more than enough to neutralize them. This, the writer argues, is necessary to prevent putrefaction of the proteid elements.

In this book, as in every other work upon physiology, the careful student is constantly meeting points which he can only wish were a little more clearly elucidated.

As a text-book there is only one general criticism we would make; the book is too voluminous and bulky for the every-day student. As a work of reference, and for occasional study by the general practitioner, it can only be spoken of in terms of highest praise.

CORRESPONDENCE

The Cause of Death

To the Editor of the A. M.-S. BULLETIN:

In your issue of April 10, I read an article by Dr. Topeano; he says, "the term 'heart failure' seems as expressive as any we have in medicine designating the cause of death;" he also criticizes in severe terms, officers of boards of health who refuse to issue a permit on such a term. It seems to me Dr. Topeano has overlooked the object of "death returns."

The main objects of "death returns" are: 1, for vital statistics; 2, to prevent fraud; 3, to prevent crime; 4, as a record of information relating to property rights, identification, etc.

The term "heart failure" is too indefinite to express the cause of death, as it can be applied to any case of death.

"Heart failure" is simply the effect of a deep-lying cause, and this cause of the heart failing to perform its function should be clearly expressed on the "death returns," because the object of "death returns" is, to find out the cause of heart failure or death, for the reasons mentioned above. Now, if a doctor is unable in some cases to find out the cause of death, he should be true to himself and the community and say so; he should certify that Mr., or Mrs., or child, or infant so and so is dead, cause unknown; he should append to it his explanation for being unable to find out the cause of death; this would necessitate an autopsy in case any suspicious circumstances were connected with the case. E. VIKO, M.D.

Park City, Utah.

The Greater New York Charter

To the Editor of the A. M.-S. BULLETIN:

Among the criticisms of the new charter of the Greater New York none has been more severe than that directed against Sections 1247-1249, relating to the duties of physicians in reporting cases of contagious and infectious disease. These sections are referred to as if they were entirely new and unprecedented and designed to give the Health Department a dangerous and tyrannical authority over the members of the medical profession. Now, the fact is that these sections are not new. They constitute Sections 608-610 of the Consolidation Act of 1882, under which the city has been governed for fifteen years, and were originally passed forty-seven years ago, Sections 1247 and 1249 being in Chapter 275, Laws of 1850, and Section 1248 in Chapter 384, Laws of 1851.

GEO. B. FOWLER, M.D.,
Commissioner.

Health Department, New York.

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The College of Physicians and Surgeons of Chicago has recently become the Medical School of the University of Illinois.

The German government has ordered the prosecution of all persons publicly exhibiting in that country a degree obtained from the Chicago German Medical College.

The fourth annual meeting of the American Medical Publishers' Association will be held in Philadelphia on Monday, May 31, 1897. Everyone interested in medical journalism is cordially invited to attend.

Dr. Walter Wyman, supervising surgeon of the U. S. Marine-Hospital service, is making enquiries from boards of health regarding the care, regulations regarding, and treatment of tuberculous patients in different parts of the country.

A bill aiming at preventing blindness in infants, by compelling nurses and midwives to report to a doctor all cases of conjunctivitis in infants, was laughed to death in the California legislature a year ago, but now that the Solons of that State have sobered down to considering facts, it is likely to pass.

A bill before the Michigan legislature asks that women doctors treat women patients in the insane asylums. The objection was urged against it that the patients themselves had not asked for such a change. A woman doctor replied that the reason such patients were there was because they do not know themselves what they want.

The Medical Society of the County of New York, the New York Neurological Society, and the Society of Medical Jurisprudence have asked for an alteration in the insanity law of New York State, so that dangerous or violent lunatics can be temporarily cared for pending the outcome of legal proceedings for final commitment.

Bellevue College and University Medical College, of New York, have coalesced. The consolidated institution is now under the control of the University of New York, and Chancellor MacCracken says it will be the largest and best-equipped medical institution on the continent. The two colleges have been rivals for thirty years.

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EDITOR'S NOTES

The *Medical Record* and the *Journal of the American Medical Association* have lately been making faces at and saying uncomplimentary things about each other. It is to be hoped that they are merely poutish taps of quarreling lovers, and that both will get over the tendency soon, make friends and pull together.

The Court of Appeals of the State of New York has sustained the law passed two years ago, forbidding any person, after once being convicted as a felon, from practicing medicine. It was fought on constitutional grounds, but without avail. The courts now hold that a man who is admitted so freely into the family circle should be of good moral character. This is a law that other States might wisely copy.

Philadelphia is going to have an American Hospital for Diseases of the Stomach. As nearly every form of disease that flesh is heir to affects the stomach, and as the great masses therefore attribute most of their ailments to stomach disease, it is quite likely that it will be well patronized. The names of those upon the medical staff constitute a guarantee that no effort will be made to take advantage of the human weakness to which we refer.

Being over-zealous in the enforcement of medical laws, is as dangerous as leaving such laws to care for themselves. The mistake lately made by the agents of the Medical Society of the County of New York, in arresting a properly qualified physician and undertaking to prosecute him as a quack, will do much to damage medical laws throughout the country. The arrest of Dr. Mickewicz, of Hazleton, Pa., although technically justifiable, was cruel, and is also calculated to bring good laws into disrespect.

Matteawan, N. Y., has a progressive schoolmistress. Her class in physiology needed proper instruction. The trustees gave her the right to dissect a dead cat in the presence of her pupils. She did this horrible thing and a sensation resulted. If it had been a live cat the commotion could have been no worse. The hyper-sensitiveness of some people is marvellous. The opposition to physiology by superstitious people is deep-seated, and generally the cry of cruelty raised against physiologists is but a subterfuge to invoke help in fighting them.

The Board of Health of Shenandoah, Pa., accuse some of the physicians of that place of sending in false returns in cases of contagious disease. The public object to having such cases reported, and frequently turn off doctors for reporting the same. It is too bad that some people are mean enough, and selfish enough, to expose the lives of their friends and neighbors in this way. It is still worse for physicians, who should appreciate the danger of such conduct more vividly than the laity, to be guilty of such an offense. The world is not half civilized yet.

On March 4 Dr. Stephen Smith read a paper before the New York Academy of Medicine concerning "The Health Department of Greater New York" that was timely, just, and pointed. His suggested amendment providing for three thoroughly competent physicians, one lawyer, and one sanitary engineer to constitute the Board should be supported by every medical man in New York State. Other cities would be acting wisely if they adopted similar measures. Incompetency should be ruled out of every board, and only men well qualified should hold such offices. Law and sanitary engineering should be represented.

The Waterbury, Conn., Board of Health has been wisely seeking to add a bacteriological department to its equipment. Some one in that city quotes from our editorials what he thinks is staggering evidence against their presumption. Because, forsooth, we have asserted that by form alone pathogenic bacteria cannot be told from non-pathogenic ones, therefore, concludes this wiseacre, they cannot be told at all. If the city fathers of Waterbury are really anxious to benefit the community, by all means let the health board have this necessary aid to its work. There are other methods besides morphological ones for telling disease germs.

We had always been of the opinion that toothache was the same torturing malady the world over. With Burns, we believed it to be the "hell o' all diseases." If we might judge from a late order of the Director-General of the Cantonal Post, the kind Geneva letter-carriers and other employés of the postal department in that part of Switzerland have, must be of a different type. All such employés are warned that hereafter if they absent themselves from duty because of toothache they will be scheduled under "Absences for Pleasure and Preventible Irregularities." If Swiss toothache is a pleasure, we wish they would exchange with us and take some of ours.

The Detroit *Tribune* deserves the thanks of all scientific medical men in Michigan for the bold and manly stand it lately took in opposition to the Bryan Anti-Vivisection Bill. Bryan confessed that he knew nothing of the merits of the bill, and yet he was willing to introduce it to please somebody. It is a rehash of the McMillan Bill of the District of Columbia, and possesses all its vices. If it passes, it will certainly be a disgrace to the State of Michigan, and a crime against the human race. While it pretends only to be a regulating measure, it is, in fact, a suppressing one. It is conceived in hysteria, and if born as a law it will come into being by pretense and falsehood. Let Michigan physicians fight it with all their might. If they do not, they will wish they had. Do not be deceived by its hypocritical claim of being merely a measure to check cruelty. It is a measure to curse the human race with suffering for generations to come. It puts the life of a rat or mouse far above that of a human being. Down the Bryan Bill!

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Colds Treated With Menthol-Chloroform

Wunsche (*Ther. Monats.*; ref. in *Med. Age*) says that menthol, dissolved in chloroform, is the most efficacious of all remedies. A solution of 1 or 2 parts of menthol in 20 parts of chloroform will not only arrest the progress of a cold in its initial stage, but it is also an excellent influenza prophylactic. From 4 to 6 drops of the solution should be quickly rubbed between the hands, which should then be tightly pressed together and placed before the face, when the remedy is energetically inhaled alternately through the nose and mouth. It will be immediately noticed that the volatile parts of the solution throughly impregnate the mucous membranes of the nose, mouth and throat, and even penetrate deep down into the air passages. During the first two or three inhalations the sweetish chloroform vapor predominates. Afterward, however, only menthol in attenuated condition is inhaled, odor and feeling remaining apparent for some time after the inhalation. As a rule, the first inhalation suffices to cure the severest tendency to sneezing, and often to arrest the progress of the cold altogether. Two further applications of the remedy in the course of the day suffice to suppress the attack completely. The first inhalation at first slightly increases the flow from the mucous membrane of the nose; afterward, however, this symptom diminishes quickly. Pains in the pharynx and larynx may be quickly eased and often entirely relieved by the remedy.

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Headaches Treated With Methylene-Blue

Lewy (*Berl. klin. Woch.*, Nov. 9, 1896) reports a series of cases of headaches from various causes, in many of which relief was obtained by the administration of methylene-blue. The drug was given in capsules, in doses of 1 and 1½ grn., in conjunction with an equal quantity of powdered nutmeg four times a day. Usually ten doses sufficed to effect the desired result, although often less was necessary. The urine became tinged with blue in the course of half-an-hour after the first capsule was taken, and continued so for from two to eight days. Lewy recommends methylene-blue in angiospastic migraine, the headache attending neurasthenia, and it is especially efficacious in purely nervous headaches.

NEWS

McGill University graduated 76 students March 25, 1897.

A Skiagraphical Society is about to be organized in Great Britain.

Osteopaths failed to amend the Medical-practice Act of Iowa to suit their convenience.

The St. Louis Board of Health is asking for restrictive legislation against hypnotism.

The American Medical Editors' Association meets in Philadelphia, June 1 to 4. Dr. Hare presides.

Mr. Walter Drake has bestowed $25000 on McGill University, Montreal, to endow a chair of physiology.

Schrader, the "divine healer," had to leave Rhode Island because of the health laws. He has gone to Worcester, Mass.

Colorado druggists can no longer sell cocaine without a physician's prescription. The governor signed the new law March 31.

The city attorney of Milwaukee, Wis., says that the health commissioner has no right to keep unvaccinated children out of school.

The School Medical Inspectors of New York City proved their utility by excluding 140 pupils from the public schools on their first day.

The Ohio legislature is considering a bill prohibiting the distribution of patent-medicine literature describing the symptoms of disease.

The San Francisco police have been hauling up Chinamen in squads for violating the new law that forbids sprinkling clothes from the mouth.

A late fire at the Manhattan State Hospital for the Insane burned over $75000 worth of property that cannot properly be replaced before August.

The San Francisco Board of Health uses large red Maltese crosses to warn the public against spitting. In the centre of each cross is printed the ordinance against spitting.

The New York Hospital has had a number of cases of smallpox, and much fault was found with the managers because no precautions were taken to prevent its being spread.

Dr. Doty, the Health Officer of the Port of New York, is, according to the New York *World*, preparing serum to check the plague when it forces its way beyond his quarantine.

The Tri-State Medical Society of Iowa, Illinois and Missouri had a large and interesting convention at St. Louis, Mo., April 6 to 10. Dr. Emory Lamphear was elected president.

The Pasteur Institute at Paris has among its horses used in preparing serums, the charger of Marshal Canrobert, and Saint Claude, the winner of the great race at Auteuil in 1890.

The homeopathic governor of Missouri is having trouble in getting the board of managers of the lunatic asylum at Fulton to resign. Late advices seem to indicate that he is going to win.

The surgeons of St. Mary's Hospital of St. Louis report having taken a young orange sprout from the stomach of a girl aged 13 years. The seed was encysted in the lining membrane of the stomach, where it had sprouted.

The Medical Society of the State of North Carolina has changed its date of meeting to June 8, so as not to interfere with the arrangements of members wishing to attend the American Medical Association at Philadelphia.

Dr. Thomas Addis Emmet, who has practised medicine in New York City for nearly 50 years, has received from the University of Notre Dame the Laetare medal for 1897. Archbishop Corrigan presents it in behalf of the University.

OBITUARY

Edward D. Cope, Ph.D., the distinguished paleontologist and professor of Zoölogy and Comparative Anatomy at the University of Pennsylvania, died of septicemia April 13, at his home in Philadelphia, aged 57 years. He was one of the best-known scientific men of the United States, and although not a physician, was well-known to a large number of medical men both in this country and Europe. For many years he has edited the *American Naturalist*, and was president of the American Association for the Advancement of Science at its late Buffalo meeting. He is the father of what is known as Neo-Lamarckism in Evolutionary Biology.

Dr. George B. Twitchell, of Keene, N. H., Tuesday, March 30, 1897, aged 76 years and 6 months. Dr. Twitchell was a graduate of the University, of Pennsylvania, began practice in April, 1843 in Keene, served as surgeon in Grant's Army before Vicksburg, was one of those who aided in establishing the Elliot City Hospital, and long held the position of president of the Board of Trustees of the New Hampshire Asylum for the Insane. He was well-known throughout New Hampshire and was a universal favorite.

Dr. Jonathan S. Curtis, of Hartford, Connecticut, on Wednesday, March 31, aged 76 years. Dr. Curtis was a graduate of Dartmouth College, and also of the University College of New York. During the war he served as surgeon of the 22d Connecticut Volunteers. He was for many years surgeon of the Consolidated and New England Railways. It is said of him that he was more often called in consultation than any other medical man in Connecticut.

Dr. Charles R. Wiley, for 32 years a leading physician of Vineland, N. J., died at his residence in that place on April 2, 1897.

Dr. Edward H. Foster, of Concord, New Hampshire, on April 5, aged 56 years. He was one of the best-known physicians of that region.

PUBLISHERS' DEPARTMENT

EFFERVESCENT HUNYADI-SALTS

This is a new preparation just being introduced and to which the attention of the medical profession is invited. In these salts are combined, in effervescent form, the laxative and tonic principle of the celebrated "Hungarian Waters," with phosphate of soda. They are recommended as being gentle, yet thorough in action in cases of sick headache, torpid liver, biliousness and indigestion. The need of a gentle laxative and aperient, thorough in action, is an everyday need with a great many people, and an occasional need with others. The proprietors, The Hunyadi Salts Co., St. Louis, Mo., will gladly send free of charge to any physician writing them, samples and literature for their inspection.

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EDITORIAL

LEGISLATIVE ADVERTISING

IT seemed as if all conceivable advertising schemes that ingenuity could devise had long ago been tried, but when the American Antivivisection Societies came upon the scene this was found to be a mistake. Whether accidentally or by design, the members of these societies have hit upon a plan that is not only free of cost to them, but actually compels their opponents and those having no sympathy with their views to pay the bills. This seeming impossibility is accomplished by using legislative bodies as tools for their scheming. Of course, such a plan is inherently dishonest, but this fact does not seem to disturb their equanimity one bit. Any burthen that can be shoved upon the shoulders of taxpayers in these practical days is held to be all right. The rank and file of antivivisectors are not generally conscious of any such scheming. It is managed by the professional propagandists, who feel that they must earn their salaries somehow, and who hope to increase their personal incomes by an increase in the number of those that support their cause. Their whole pretended interest in the regulating of vivisection is the hollowest of hollow shams. The fundamental tenets to which they subscribe as antivivisectors compel them to believe that every form of vivisecting is sin. The very act of licensing anyone to vivisect an animal, they, in their hearts, if honest, consider a crime. In "The Modern Rack," p. 228, Miss Frances Power Cobbe, the great prophet of their cause, tells us that vivisection, as a method of research, "must be either freely sanctioned, or else abolished or suppressed." All antivivisectors pretend to believe this when they sign the National Petition for the Total Abolition of Vivisection. No middle ground is tenable. They hold and teach that vivisection cannot be regulated by law, and even if it could, it should not be so regulated. Miss Cobbe, on the same page says that "every actual or possible legal restriction of vivisection is not only fallacious as regards the protection of animals, but demoralizing to mankind." Why, then, do these people persist in such demoralizing conduct? If all legal restrictions are, as they claim, both useless and vicious, why are they at work in the District of Columbia, in Massachusetts, and in Michigan, trying to get the legislatures of these places to pass regulating acts? How can they persist in such conduct and hope to escape being charged with open, rank hypocrisy? Where is the logic and where the consistency of pretending to believe that restrictive legislation does not restrict, and at the same time insisting upon having such legislation? Is there not a good deal of incongruity in going about with a petition in one hand, asking for signatures for the total abolition of vivisection because it cannot be regulated, and another in the other hand for the same parties to sign, asking for the regulating of vivisection? This is what they have been doing in a number of places during the past year. Why do they not stand up, like honest men and women, in defense of what they believe? They should at least advance some sort of justifiable excuse for such Janus-faced conduct. We can all see that it helps advertise their cause by giving them an excuse to pester people with their misleading literature, and it harasses and annoys physiologists and bacteriologists. They know it never can accomplish the object aimed at by their societies. They know that all such attempts at regulation are a mere farce, calculated to bring law into contempt and loosen the bonds of safety of a free government. They know, too, that the cruelty they complain of is neither wanton nor designless, and that any possible regulating measure they might introduce would, by the very nature of the case, fail of success. If not for mere advertising purposes, why, then, do they thus violate their own principles and run counter to their own expressed judgments? The method by which they work to obtain such legislation seems also to confirm the belief that it is all for mere advertising. The Hon. Edward C. Bryan, of Michigan, who introduced their regulating bill into the legislature of his State, according to the Detroit *Tribune*, confessed that he knew nothing of the nature or merits of the same. He merely introduced it to please someone. There was not in the whole State a single soul that could honestly stand sponsor for it. Those who drew it up had not one particle of faith in its efficacy for good. Indeed, if questioned closely, they would have been forced to confess that it was a hypocritical fraud, that no one in particular was interested in it from principle. The papers, generally, spoke of it as the antivivisection bill. The public appeared to think that it was an antivivisection bill. No one except the antivivisectionists themselves seemed to know that it was a poor waif, begging life on the basis of pity, and with none willing to own it as their own.

A most surprising feature of the affair was that our usually wide-awake contemporary, *The Physician and Surgeon*, was caught by the "antis" almost as prettily as was Mr. Bryan. In an editorial in the March number, we are informed that "The bill is one which the discerning members of the medical profession will certainly not oppose." Will the editor tell us why they should not oppose it? There is not in it a single feature that an honest bill to suppress wanton cruelty should possess. Every medical man in America is heart and soul with the Humane Societies in their efforts at putting an end to all suffering due to viciousness. There are but few medical men who do not love pet animals, and would sooner suffer themselves than see unnecessary suffering placed upon any dumb brute. Any law that honestly aims at checking such suffering will always have their cordial support. Is this such a law? Emphatically no! It strikes straight at *experiment*, the very heart and soul of true science. It makes experiments subject to provisions and restrictions. As experiment is not experiment at all when subjected to provisions and restrictions that run counter to those Nature has already provided, the very essence of such a law is a crime against science. Does it not cast the stigma of police surveillance over some of the best and most intelligent men in the commonwealth of Michigan? Does it not make it impossible for the courts of the State to settle important medico-legal questions requiring immediate animal experiments? Should an issue arise concerning the presence of dangerous pathogenic bacteria in a fluid wantonly administered to a human being, and the fact had to be settled quickly to save a human life, could it be done legally in the absence of a licensed person in a State having such a law? Does the law not make it impossible for some of the best physiologists and bacteriologists in the world to work in Michigan because they are not doctors of medicine? If France had had such a law, they never could have had a Louis Pasteur. While it is wise, just, and humane to use anesthetics in every place where they do not interfere with or make impossible the experiments aimed at, yet there are experiments that cannot possibly be conducted successfully under their use. Our knowledge of the physiology of sensation is far from complete. Our knowledge of the effects of pain upon the functions of the various glands and organs is almost nothing. Our knowledge of the causes and nature of pain is very incomplete. Our knowledge of anesthetics themselves is small and fragmentary. We know but little about their effects as stimulants or inhibitors of the functions of the various organs of the body. The physiologist is not always able to eliminate the effect of the anesthetic from the results that he observes. Is it, then, wise to tie the hands of the world's greatest benefactors when trying to solve the most momentous questions of life and death? These are all weighty reasons why medical men should oppose all such bills. It will be observed that every time a bill of this kind is proposed, there is sure to be found somewhere within it a provision demanding the services of inspectors *without pay*. What class of citizens is likely to take upon themselves the dirty work of spies and informers without pay? Evidently, only fanatical and ignorant antivivisectors, with psychopathic proclivities, could ever be induced to take hold of such places. Would it be wise to permit such men or women to meddle with and hamper work that their hysterical dispositions, violent prejudices, and absolute ignorance would incapacitate from understanding the simplest rudimentary features of? No doubt, such surveillance would sooner or later come to an ignominious end, but in the meantime much harm could be accomplished. A few rebuffs administered to them by intelligent judges would in the end dampen their ardor and drive them from the field. In time such a law would naturally become a dead letter. Such is the outcome of this kind of legislation in England. Such will be its end here, if passed. The antivivisectionists know this, but they want to be advertised at the expense of the taxpayers.

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SECTARIANISM IN MEDICINE

WORDSWORTH has wisely said that "To the solid ground of nature, trusts the mind that builds for aye." Modern science, as distinct from pseudo-science and speculative philosophy, is always content to submit its questions to the test of experiment. On that they stand or on that they fall. Neither opinions nor authority have any weight. The mere belief of the most brilliant man in the world stands for nothing as against a single experiment of a child. Nature is the only acknowledged arbiter, and what it says is final. This is why there can be no acknowledgement of sects in science. When new questions come up, and while yet they are *sub judice* men of science will take sides and work and reason in opposition to each other till a crucial test can be devised, after which, so far as they are concerned, the matter is settled forever. Every science at its inception emerges from sectarian trammels, and for a long time the public cannot discriminate between science and pseudo-science. Under such conditions the laggard pretenders who hang on to false notions and half truths of the primitive reasoned-out philosophies do their best to keep up the delusion in the public mind. They have a creed and they insist upon it that their scientific opponents also have one. There are still people in the world willing to defend astrology as against astronomy, perpetual-motion hunters as against mechanics, manufacturers of electric belts as against electricians, and fortune-tellers as against mathematicians and their doctrine of probabilities. Happily for the world the hold of the pretenders in these departments is now too weak for them to claim sectarian recognition. When we come to experimental psychology, experimental sociology and experimental medicine distinct sects still stand in opposition. Here personal interests are strongly against progress, and the great bulk of the public is not yet able to tell the mere pretender from the man of science. In medicine this is a most unfortunate state of affairs, but it must be borne with until the masses come to understand the fundamental differences between the sectarian follower of a fixed creed and the freeman who follows nature's indications irrespective of creed.

One of the most potent methods by which the public is destined to become educated in this direction is by the enforcement of just medical registration laws. The sticklers for sect will, of course, see this fact and use their influence against all such laws and their enforcement. The honest sectarians who really have confidence in their creed will make no such fight as they will seek truth wherever it leads. By making the examinations equally strict for every applicant, whether sectarian or non-sectarian, every medical college will be forced into uniformity. Make the time of study, the conditions of study and the character of the knowledge conform to a common and high standard. As the degree given by every medical college is the same, it should be made to mean the same in training and knowledge upon everything that is accepted as science by all. There is no sectarian anatomy, physiology, pathology, histology, chemistry, obstetrics, gynecology, or surgery. Once let a man be well grounded in these, and while he may, for personal reasons, hang on to a sectarian name, his practice will be quite certain rapidly to become scientific. Unfortunately there is a large amount of practice done by every medical man that is not scientific. Growth in knowledge will in time eliminate this. With those who are untrammelled by creed it will be eliminated most quickly. With the sectarian practitioner a forced growth in pathology and physiology will bring him along with almost equal celerity. As things are now going, it is safe to predict that in a few generations more there will be an end of all medical sectarianism. Every kick on the part of the sectarian will force public attention upon the issue, and if the friends of science will act with wisdom and justice they can do much to hurry the work of destroying the creeds. The majority of the people only ask for fair play. If all medical men, whatever the school or college they come from, are treated exactly alike in matters upon which they claim to agree, no fair-minded person can object. Whoever raises an objection against equal treatment on grounds of common agreement will gain public disapprobation. To do so is to show the world that there is a fear of facing a just test of worth. To insist upon a homeopathic physician passing an examination in regular therapeutics or practice would not be just. To ask a regular or an eclectic physician to pass an examination in homeopathic practice or therapeutics would be equally unjust. To ask all to pass a strict and satisfactory examination on subjects each accepts as true and to insist upon the examination being as rigid for one as for the other, is only fair play, and will commend itself to the best judgment of the public. Let sectarians fix their own standards in sectarian things. It does not matter who fixes the standard in the domains all acknowledge to be scientific. If the homeopathic colleges demand a higher standard than the regular ones, then it is to the credit of homeopathy, and the regulars should willingly bow to their demands. If the regulars fix the higher standard, then it is to their credit and all the rest should be forced to bow to the same. No college should be permitted to lag below the accepted standard, it matters not who fixed that standard, or where it was fixed. The public good is the one supreme object and not professional jealousy. A college that will not bow to a condition that works directly toward the public good should suffer—and suffer severely for its contumacy. The State Board of Medical Registration and Examination of Ohio lately notified all colleges that on and after July 1, 1897, it would refuse to recognize the graduates of such institutions as failed to supply them with evidence that they complied with the entrance requirements of the American Association of Medical Colleges and lived up to the rules of their own announcements. This apparently reasonable demand has aroused resentment on the part of the Hahnemann Medical College and Hospital of Philadelphia. The faculty of this institution refuse to supply such information and say they will not purchase the price of their standing before the Board in any such manner. They reject the standard of entrance set by the Association of Medical Colleges because it does not represent their sect or denomination, as if that had anything to do with the matter. If they could show that the standard is not a just or fair one, honest men might sympathize with them. To reject it on so shallow and silly a pretense simply makes them ridiculous. The only sensible test is the good of the public. Does or does not the entrance standard of the American Association of Medical Colleges act as a public benefit? If it does not, then the opposition is sound. If it does, then it is foolish and unworthy of full-grown men to make any opposition. We are inclined to think that Dean Dudley and his associates have thrown a boomerang that will come back and damage them. Judge Pugh has lately decided the constitutionality of the power of the Ohio Board and the little resolutions of the Hahnemann College faculty will resolve their own students out of that State. The demands made by this Board are exceedingly modest. The public good would be conserved more if they fixed a standard for every department of medical study outside of those branches to which sectarians refuse to accede. Indeed, it would be better still if no diplomas were accepted except as evidence of sufficient knowledge in therapeutics, materia medica and perhaps practice. For every other branch an examination should be made by a competent Board. The State of New York in its examinations is more nearly ideal than most other States. Its defect is its multiplicity of Boards. If every applicant for registration had to pass the same examination in all branches accepted by regulars and sectarians alike, and if the ratings were fixed by competent men from papers marked with a sign, and not a name, so that no cue could be had regarding the college from which each applicant came, greater justice would be done. To have regulars rate regulars, homeopaths rate homeopaths, and eclectics rate eclectics is to give a decided advantage to the class that works upon a low standard. Those that are anxious to raise the standard will give the most severe markings. Those that prefer to keep down the standard will be lax.

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BACTERIOLOGY AND SANITATION

THAT human reason, when divorced from the correcting influence of intelligent experiments is always pretty sure to go astray, has been attested by every progressive step we have ever made. A number of pointed illustrations of this can be found in the theories advanced concerning disease during the early development of chemistry. We are always prone to carry our theories too far and make them explain too much. At the time we speak of chemical theories were advanced for everything. Sewer-gas was charged with producing typhoid fever, and swamp-gas ague. All the epidemics of influenza, cholera, plague and other such maladies were charged to the account of foul gases or the chemical products of decomposition. Kircher and Linneus, with their far-seeing mental vision, saw a spark of light emanating from the discoveries of Leeuwenhoek, but for a long time nothing came therefrom because there was no animal experimenting going on in that direction. In February, 1837, Schwann, of Berlin, caused that spark to glow with a little more splendor by his discovery of the yeast-plant. Pasteur was the new genius who caught sight of it, and who at once proceeded to demolish the chemical theory of fermentation and putrefaction. Then a multitude of microscopists turned with him to the investigation of this newly discovered world of plant life. By this time the spark had been fanned into a flame, and it was caught up by Lister, whose genius used it in driving from the world the barbarous darkness of ancient surgery. The sacrifice of human life in the surgical wards of hospitals and on the battle-field was stopped at once.

From this time on the conviction began to grow that bacteria were the cause of most of the diseases that plants, animals and men suffer from. Davaine soon discovered the bacillus of anthrax. Eberth followed with the bacillus of typhoid. A multitude of bacteria that caused diseases in animals were found and studied. Koch soon came in with the bacillus of tuberculosis. Klebs and Loeffler found the bacillus of diphtheria. Koch added to the list the comma bacillus of Asiatic cholera. Lately Kitasato and Yersin have given us the bacillus of plague. Others not here named have, from time to time, been added to the list. We have been living in the age of bacteria, and as a consequence bacteriological explanations have now monopolized the field just as the chemical did. Already the error is being checked.

We are now entering a new age. Bacteriological explanations have failed in a number of diseases, and we have already got proof of a new cause. Bacteria are plants. The bacterial explanation is a botanic one. The new explanation that has come—not to take its place as the hasty and superficial thinker may conclude, but to supplement it, is a zoölogical one. Minute microscopic animals or protozoa are the mischief-makers. Shall we or shall we not be permitted to study these by animal experimentation? Measles, smallpox, scarlet fever, whooping-cough and other such diseases have defied the most careful scrutiny of the bacteriologist and his methods. There is now some promise of our knowing something about them before long. We now know how to guard against the bacterial diseases by knowing the life-history of the bacteria. Shall we be permitted to acquire a knowledge of the life-histories of these protozoa so as to learn new facts of sanitation and new ways to save the healthy from disease?

Without the animal experiments performed by Koch, how could we ever have known how to guard the race from the awful scourge of tuberculosis? We never should have known that diseased animals imparted this disease to human beings. We should never have been able to guess that dried sputum from consumptives is deadly. We never could have found out that danger lurks in the meat of tuberculous animals and in their milk. We never should have been able to make satisfactory and correct *ante-mortem* diagnoses of tuberculosis in animals. This knowledge has already saved thousands of lives and an incalculable amount of misery. Without the animal experiments performed with the typhoid bacillus what should we have known of the sanitary measures now pursued to check typhoid fever? Through our knowledge of it we have learned of dangers in dirty water, dangers in dirty ice, danger from wells that appear to be sweet and pure, dangers in sewage, and dangers in drainage. Every measure pursued by our Boards of Health to check this disease has come to them as knowledge from vivisectors. We have by their assistance been able to prove that a multitude of our old ideas were wholly wrong. Chemists thought that sewage could be safely turned into streams used for the supply of cities. They believed that all the filth would be oxidized. They did not take into consideration the living organisms that vivisection has shown are the cause of disease. Privies were allowed to stand on strata draining into wells. The water of the wells looked pure and tasted sweet. When epidemics of typhoid occurred bacteriology showed the cause. The discovery that typhoid fever is a filth disease has saved far more human lives already than all the animals that were sacrificed in making the discovery. The study of typhoid dissemination by aid of our knowledge of the life-history of the typhoid bacillus has been the means of our knowing how other filth diseases are carried. It has helped us to a knowledge of Asiatic cholera and the choleraic diseases of summer. It has put into our hands the means of fighting the advance of cholera and driving away our superstitious fears of that disease. The saving of life by the checking of fear is alone an item of great importance. Not very long ago people were afraid to go near typhoid-fever patients because it was believed that breathing the same air as they did would give the disease. Now all this is past, thanks to vivisection. We are still in the dark regarding the methods by which small-pox, scarlet fever and other diseases of this kind are disseminated. In a general way we know how to guard against them. Our knowledge, however, is too inadequate to be very practical. If we ever discover the missing facts it will be pretty certain to come to us by animal vivisection.

In a crude, uncertain way the world has long known the necessity of cleanliness. It has been preached from the pulpit and talked at men for ages, but to little advantage. Only when experimental science was able to say to them "Be clean or you must surely die," was attention riveted on the fact and obedience gained. Even the best in the community did not know what constituted real care and proper cleanliness till bacteriology taught them. Not even yet are people sufficiently enlightened upon this subject. Multitudes are quite content to go on in their filth if they can only present a cleanly exterior to satisfy social demands. As soon as they are fully acquainted with the imperative lessons of hygiene, that can only come to them by a belief in bacteriology, they will change their present dirty ways for cleaner ones. Shall ignorance stand in the way of knowledge? Shall fanaticism triumph over common sense?

AMONG THE EDITORS

THE CANADIAN MEETING OF THE BRITISH MEDICAL ASSOCIATION

"Politely but firmly," says the *Medical Press*, "measures are being taken to point out that the meeting of the British Medical Association at Montreal, in August next, is not intended for the ʽοι πολλοι of the American profession of the United States, but that it is distinctly a gathering of the members of the Association, together with certain specially invited guests."

There can be no reasonable objection to the Association making such arrangements as will conduce to the success of the meeting in accordance with its highest objects and aims, but it is just possible that this can be more "politely" done than has been attempted in this brusk venture of our excellent contemporary. However, it is important that the members of the profession should comprehend the circumstances under which the Association meets this year in Montreal, and so avoid any embarrassment or irritation that might arise from misunderstanding.

"We're a great people, that's beyond a doubt,
And nothing loth to let the secret out."

For the British Medical Association to be so completely swallowed up the first time it ventures out of the confines of its sacred dominions would be sad indeed. If, however, it be true that many practitioners, especially in the West, were intending to neglect the meeting of the American Medical Association in Philadelphia, reserving their time and money for a trip to Montreal, the danger was imminent, and they do wisely to anticipate it. With the meeting of the Congress of American Physicians and Surgeons at Washington in May, and that of the American Medical Association at Philadelphia in June, sufficient opportunity will be afforded this season for indulgence in the American proclivity and for the craving for scientific pabulum to be amply satisfied. We heartily endorse the suggestion of the *Record* when it says: "We sincerely hope that no American will be seen in Montreal at the meeting of the Association who does not go as an official delegate from some society empowered to send him, or in response to a personal invitation from some one in authority."—*Medical News.*

VIVISECTION AND VEGETARIANISM

If animals are sacrificed to maintain life by furnishing food-stuff, why should they not be sacrificed to furnish brain-stuff, knowledge. The health of vegetarians, the world over, is evidence that animal flesh is quite unnecessary as an article of diet. One of the most ardent advocates of this form of dietary recently died in England, forfeiting the possession of more than four score years. Besides making the world his debtor for a system of phonography known as far as the confines of civilization, he left a letter in "fonetic" orthography which has contributed to the gaiety of nations while it extolled the virtues of vegetable diet.

We would be grateful for the relief if comical weeklies and serious monthlies would transfer their reformatory impulses for a time from the vivisectionist to the carnivorous biped.—*Pediatrics.*

THE PHYSICIAN AND POLITICS

The question of medical politics we do not wish to touch upon, nor do we wish our readers to attach any wrong interpretation to the use of the words. The natural impulse of the medical man who is an earnest devotee to his profession, is most decidedly against the idea of an invasion of public places and the appearances in public offices, for the simple reason that such a condition of affairs is generally interpreted to mean that his interest in politics is greater than his interest in medicine. Not only so, but the kind of work that a physician constantly is called upon to perform is calculated to put him entirely out of sympathy with both methods and people with whom he would come in contact in political life. And yet we must confess that the able presentation of the claims of the state and the country upon every educated individual, as presented in the address mentioned, seem to demand, even where a personal sacrifice is involved, the active interest of the medical man in the practical politics of his town, city, state and country. We are constantly complaining because so little attention is given to the warning and to the request of such a large and intelligent part of the public as our medical fraternity. Is it not for this very reason, namely that the physicians themselves do not act as a unit and do not take, as a rule, any interest whatever in the ordinary course of politics? This being the case, from the standpoint of the politician, they can have no weight. From the standpoint of the public, a large portion of which is organized and managed by the politician, it cannot compel a following. It does seem that the solution of the situation is comparatively simple. The physicians themselves must follow more closely, not only what affects them, but also whatever is of interest to their own municipality. In short, they must identify themselves at the outset with what appears to them to be the measures most intelligent and best adapted to the needs of the community at large; and they must do this, not to the injury of their professional work, nor to the loss of opportunity to increase their professional information. On the other hand, the public must come to view such a changed relation in a very different light from that in which it now does. It must realize that an important factor for good has entered into political life. It must appreciate that in so doing this factor loses none of its claims to the respect and confidence of individuals in the special work to which its life is dedicated. The gist of the whole matter is simply this, that in a republic it is incumbent upon every citizen to be a politician.—*Gaillard's Medical Journal.*

FOR THE MONEY THAT IS IN IT

To be sure, doctors have to live, and most of us are obliged to pay our grocery bills; but we are not in the business entirely for the money that is in it. We are getting heartily sick of reading articles in our exchanges on "The Practice of Medicine as a Business." A recent editorial in one of our exchanges goes so far as to say:

"As soon as a case has been dismissed from our care, the last call has been made, present the account, have an understanding as to the amount due for attendance. If promise has been made to meet the same at a certain time, make a note of it, or, better, take a note of hand due at the date promised."

The editor says further, that if any one should take offense at a doctor for presenting a bill this early, then the sooner you are through with such a person the better. It hardly seems possible that such advice can be given seriously, and it would be most lamentable if it should be accepted. But we have too much confidence in the good sense of the medical profession to believe that such will be the case. The physician can be a good collector, and yet not forget that a long sickness often and almost invariably causes such an extra outlay on the part of the family that it would be nothing short of cruelty to demand prompt settlement of the physician's account.—*Journal of Practical Medicine.*

PRESENT CONDITIONS

Someone has said that if Dante were alive to-day in this age of writing, he would people his Inferno with the literary people who think they think. And the editor in desperate moments would also consign to the same retreat those who think they write.

We feel sure of developing a bond of sympathy with our co-laborers in the field of medicine, but on the whole we think that we have the advantage of our brothers in possessing a more cultured clientèle. The women of the profession, as well as the women outside of it, have been subdued so many centuries that they are not yet released from the customs of the ages, hence do not break into voice as spontaneously as do their brothers—for which we duly congratulate ourselves.

Whence this unseemly outburst?

'Tis this: Every medical journal that aspires to a high altitude (and who does not?) is willing, nay, anxious to hold out a helping hand to lead women onward to greater heights, to more glory, and generously offers pages, quires, reams of advice as to the proper method of mounting the ideal pedestal which he plans for us; and should we hesitate about leaving the quagmire of mediocrity which we are said to be in; should we show any desire for the flesh pots of bondage, we are mean, ungrateful wretches—but then, "what is the use of trying to do anything with a woman?"—the obstinate creature—angel in body, perhaps, but mulish at heart. If we respectfully decline any of the so-called advice, all the above remarks, with variations in the vocabulary according to the personnel of the author; all this is hurled at our benighted heads.

As a matter of fact, women in medicine are doing very nicely, thank you, and are getting on quite comfortably.

A careful survey of the field both at home and abroad will indicate the dawn of an era of prosperity for women; for men as well as women are realizing that a woman who is honest, earnest, and sympathetic is fine material from which to receive medical succor.

Reports show that a few women who have been appointed to office have administered their affairs with discretion, tact, and success. They have been, as a rule, trustworthy, conscientious, and indefatigable, and this means that more women will be asked to serve officially.

Women in medicine are here to stay, and, staying, will demonstrate that their ways are good ways.—*The Woman's Medical Journal.*

THE IRREGULAR PRACTITIONER OF MEDICINE

The irregular practitioner has troubled us, not occasionally and slightly, but frequently, and greatly, and, we unhesitatingly venture, is likely to remain, ethically, our "thorn in the flesh," quite a while; though an Esculapian, yet we are human.

First, he has sought, or, at least, appeared to seek, to injure our reputation. In our novitiate, he "damned us with faint praise" by terming us "a bright young fellow"; "a man who ought to do something by and by"; "a hopeful little chap"; and, worst, maybe, of all, "an inexperienced student"; later, he declared, alas! our treatment unlike his, called us "too ambitious," and questioned our "rash experiments"; and now, he styles us "a pitiable visionary," and has "no use for these book doctors." Once, when superseding us, thinking, evidently, the quality of the brains in a smoke-house determinable from the shingles on its roof, he has pronounced our cathartic granules "morfeen" (morphine), and been afraid he could "not overcome their baneful effect"; again, in consultation, he has judged our diagnosis "a hypercritical nicety," and trusted "broader experience" would render us "more practical"; and seldom, we fear, has he neglected a chance to down us with quizzical looks, expressive shrugs, and ominous reticence.

Secondly, he has reduced, to all intents and purposes, our fees. "How?"—By making night visits at day rates, special examinations (thoracic, vaginal, urinary, rectal, bacteriologic, etc.) without additional charge, and unmerited discounts; by performing surgical operations, attending confinements, and treating venereal diseases, half-price; by waiving mileage, or, to quote an indignant medical neighbor, "riding from Hell to Halifax for nine shillings"; and by locating, with pre-emptive designs, order-slates in country groceries, especially when, as too often, he has radiated therefrom for the "nimble sixpence."

Thirdly, he has appropriated our patients by "ways that are dark and tricks that are vain"; once, as he naïvely declared, "just to insure rational medication," by volunteering to serve a well-to-do farmer gratuitously.

Fourthly, he has jeopardized our liberty. "In what manner?" By unseasonably gathering the fruit of the womb, and, to avert suspicion, leaving the vestiges of his crime to be effaced by some honorable practitioner. Thus, in a case recently seen, the operator, because, according to his unsolicited explanation, of his confidence in our discretion and skill, had advised his partner in the feticide to call us "to end the job"—a recommendation unquestionably imperiling, and, therefore, not to be coveted.

In conclusion, we have used "irregular" with due respect to its etymologic significance, meaning, not the homeopath, the eclectic, and the physiomedicalist, whom, truth to tell, we have found no worse than their brethren of the dominant school, but all who violate the morals that ought to characterize the noblest of professions. There are such, no doubt, in most communities, and they should be ostracized whenever discovered.—*Massachusetts Medical Journal.*

A DISGRACE TO ENGLAND

At an enormous cost we maintain in India an army of 71,000 English troops, all young fellows, all in good health at the time they are sent out, and from the day they arrive in India, all surrounded by every precaution imaginable against every disease—except that one group of diseases of which we speak.

What is the outcome of all our trouble? This; that while the health of the army in regard to those diseases against which we take precautions has been steadily improving since the mutiny, in regard to these diseases to prevent which we take no steps things are getting worse and worse, till now we have got to such a pass that out of our army of 71,000 we have a permanent sick list of 3,200 constantly in hospital from this cause, besides many others treated outside, and that among even the nominally healthy there is a vast amount of partial disablement and unfitness for any but routine duties. Judging by the number of men who were found to be unfit for service in the Chitral Field Force, it is estimated that if the whole army in India were required to take the field, 8,880 men would have to be put down as useless from this one cause.

To recognize the full disgrace of our inertness in the matter, we must recognize what this committee tells us of the condition of affairs in other armies. Taking the mean for three successive years, here we have the number of admissions per annum per 1000 strength: Germany, 27.3; Russia, 43.0; France, 43.8; Great Britain (Home), 203.7; India), 438.0!

It does not appear that the recent increase in these diseases is the result of any especial tendency to immorality among the troops which have recently been sent out. On the contrary, drunkenness and other crimes appear to be less prevalent than formerly. The root of the evil would seem to be the temptations cast in the way of young fellows, who find them hard to resist, and the complete absence of all attempt to exercise any control over those by whom these diseases are spread.—*The Hospital.*

THE STANDARD OF THE PROFESSION

A State board for the examination and registration of persons desiring to practice medicine is necessary to protect the people from the operations of an ever-increasing horde of impostors of all degrees of unscrupulousness. The requirement that those persons asking for the privilege to practice shall present a diploma from a reputable medical school is necessary in order that the board of examiners shall be able to discharge its duties to the people in licensing only men of good general education, of systematic and capable training in the science of medicine, and of good moral character.

In not one of the bills proposed is there an express provision for the incorporation of new medical schools. The Indiana bill empowers its board to establish, from time to time, educational requirements for the medical school, but does not restrict the charter privilege of the State to such institutions as conform to the standard of the board. The board may refuse them the privilege of practicing within its own limits, yet the State shelters them and lends them for their ignoble purposes its corporate seal as capital upon which to operate in other States. It is the reproach of Illinois that it has permitted one of the greatest frauds of recent times, the Illinois Health University, to send broadcast its diplomas of moral obliquity and inefficiency, and continues at the present time to extend its charter privileges to the same iniquitous agency which is known to be operating under a different title. Wisconsin, also, has merited severe criticism for harboring under her charter privileges the notorious Wisconsin Eclectic Medical College. It is true the charters of the institutions have been revoked, but in both Illinois and Wisconsin no change has been made in the charter laws, and there is no safeguard against enterprises of equally dangerous character.—*The Medical Standard.*

SELECTED PAPER

THE WAR WITH THE MICROBES *

By E. A. DE SCHWEINITZ, M.D.
United States Chemist, Biochemic Laboratory, Department of Agriculture, and President of the Chemical Society of Washington

FROM the moment that man made his appearance in the world there has been perpetual warfare between himself and everything animate and inanimate upon the earth. To a great extent this has been an aggressive strife, man's every effort being exerted to compel nature to contribute to his comfort, welfare and advancement by the subjugation of her materials and forces. It was many centuries, however, before he recognized that there were certain unknown insidious enemies, which often rendered fruitless his simple household occupations, defied his every effort at control and sometimes menaced even his well-being and life. Though in 1675 Leeuwenhoeck discovered, with a powerful magnifying glass, certain minute organisms in decomposing animal matter, it was not until nearly two centuries later that their true significance was recognized, and Davaine first demonstrated the positive connection between these minute forms of life and disease. When animal and vegetable life ceased, in accordance with the laws of nature, they were supposed to be changed by purely chemical actions, so that their elements were again returned to the earth and air to supply food for other plants and animals. This destruction was considered to be wrought simply by the oxygen of the air, and the process of fermentation was thought to be due to a similar cause. It had been known for ages that the juice of the grape, if allowed to stand, underwent changes by which its character was modified and wine was formed, or this change might be allowed to progress further until the juice had been converted into vinegar and finally carbon dioxide gas and water. These alterations, those which take place in the digestive tract of animals and are involved in the conversion of dead animal and plant matter into their simplest constituents, were classed under the general head of fermentations.

The fermentations, especially that of wine, an Italian chemist, Fabroni, in 1822, supposed to be induced by a substance of vegetable origin, but closely allied to the white of egg. He considered this material identical with the gluten of cereals and gave to it the name of the "principle vegeto-animal." For nearly forty years afterward this theory was applied by chemists to all fermentations. It was supposed that the albuminoid substance present exposed to the oxygen of the air experienced a progressively variable alteration, that diverse modifications of matter were produced which constituted the ferments of diverse nature. The fermentation was the result of the molecular movement thus communicated. These theories were based upon an erroneous interpretation of what occurred under certain conditions. There exists in wine, when it is in process of conversion into vinegar, a substance which acts to bring about this modification, but this is not dead albuminoid matter, but a living plant. This fact the lamented chemist, Pasteur, demonstrated in his careful studies upon the production of wine and its conversion into vinegar. Before this time, it is true, there were many who failed to accept the theory of spontaneous oxidation, and endeavored to show that if fermentable liquids were boiled in flasks which were then immediately sealed, the fermentation could not take place. But this did not fulfill the demands of one school of chemists, viz., that plenty of oxygen gas should always be present. When the liquid was boiled in contact with air which had previously been drawn through sulphuric acid, it was claimed that the air had undergone some chemical change, so it was not until 1854 that this objection was overcome by previously passing the air in the presence of which boiling took place through cotton, and it was then that this school of chemists found their theories in danger. Pasteur demonstrated that the plant present in the preparation of vinegar was the simplest form of life, a cell which could be easily destroyed by heat. Its presence was absolutely necessary for fermentation, and with-

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* Presidential Address, Chemical Society of Washington, March 9, 1897. Published in AMERICAN MEDICO-SURGICAL BULLETIN by kind permission of *Science*.

out the living cell no amount of dead vegetable matter could cause the peculiar molecular disarrangement which had been claimed. While Liebig had contended that as long as the juice of the grape remained away from contact with the oxygen of the air the necessary motion could not be imparted to the molecules, which movement subsequently caused the phenomena of fermentation. Thus was brought to an end the strife between the two schools of vitalists and chemists; the one school of chemists demanding the presence of oxygen only, the other the presence of a living plant-cell in addition to oxygen. From this strife of the two schools was evolved in reality a new science and new theories, which have made the past thirty years marvelous in their explanations of many of the simplest phenomena of plant and animal life and death, placed the practice of medicine upon a scientific basis and rendered possible an intelligent system of agriculture and animal husbandry.

Pasteur's discoveries also served to explain the true cause of the poisonous properties of spoiled meats and other foods, stagnant water, and water from marshy countries. For more than half a century before this time a number of investigators had proved the dangerous character of old sausage meats, bread and the like. Kerner concluded that they contained a fatty acid to which the poisonous action was due; others confirmed these ideas and came to similar conclusions in regard to poisonous cheese. In 1856 Panum asserted, as a result of his studies upon the poisons found in putrid animal matter, that these poisons might be formed by some active plant-cell, but their injurious effect was independent of these cells. He demonstrated that fixed non-volatile poisons could be extracted from putrid matter which were soluble in water and alcohol, not destroyed by heat, and produced the same effects after they had been submitted to a high temperature as before. These poisons he found to be intense in their action, 0.012 grams sufficing to cause the death of a small animal. In 1866 Bence-Jones obtained from the liver a substance which, with dilute sulphuric acid, gave a bright blue fluorescence like that noted in similar solutions of quinine. Probably this was the product of what we now call fluorescing bacteria.

The work of Pasteur threw light upon the origins of these poisons. As the ferment causes the alteration in the grape juice, so do microscopic forms of life bring about the changes which take place in dead animal and vegetable matter, and also those conditions in the living body which we call disease.

Many of these microscopic forms of single-celled plants, the bacteria, have their natural habitat upon dead organic matter, but they may flourish in the living body and are almost unlimited in variety, appearance and behavior. It is possible also to cultivate them upon specially prepared solutions after their individual peculiarities have been studied. Some thrive best in light, others in darkness; some like a goodly supply of oxygen, others prefer nitrogen; some are very sensitive to changes of temperature, while others readily accustom themselves to vicissitudes.

These different bacteria further are somewhat eccentric within as well as without the animal body. Some, as the diphtheria germs, find their most comfortable habitat upon certain mucous membranes, others in the lungs, some in the digestive tract, still others in the blood, while others again confine themselves to certain external cells and membranes. In their artificial cultivation this eccentricity is equally apparent. While nearly all thrive upon a beef broth, some prefer the beef broth with an excess of acid, others with an excess of alkali. Some demand the addition of sugar or glycerine, others the addition of sugar together with acid, while some are satisfied with a diet of phosphates, salt and water. These peculiarities have to be studied for each germ, and while many can accommodate themselves to their surroundings, and while the same germ grown upon different media produces the same substances, the amount of each substance is a varying one, and in cultivating them artificially we must find which diet gives rise to the largest amount of the most active products.

Shortly after the work of Panum just refered to, the Italian chemist Selmi outlined methods of extracting poisonous principles from dead animal matter, and gave to these substances the name of ptomaines, on account of their origin. Later, in 1876, the first analysis of a ptomaine was made by Nencki and its formula determined. Further experiments showed that volatile and non-volatile substances, alkaline in character, could be obtained from various portions of the animal body, often from fresh material and also from the cultures of bacteria. These ptomaines were found to resemble the alkaloids in their chemical reactions.

In 1882-83 Brieger succeeded in separating and determining a number of these ptomaines, from the brain, from fish muscarin, from decomposed glue, neuridine and dimethyl amine, muscarin, etc. From pure cultures of the typhoid germ he obtained a substance, typhotoxin, which produced typhoid symptoms, and from cultures of the tetanus germ tetanin, which caused convulsions. The presence of similar poisonous bases was demonstrated in cultures of the cholera, hog cholera, anthrax, pyogenes aureus and like active bodies were isolated from cheese, milk, ice-cream, sausage and other foods which had caused sickness.

The isolation of these poisons from bacterial cultures gave rise to the belief that they were the bodies which caused the fatal effects of disease. But while in many instances they produced the characteristic symptoms, in others they were not sufficient to account for all the phenomena. For example, from cultures of the tetanus germ it was possible to isolate a base that had but slight poisonous properties, while the culture liquid from which this was obtained after all the germs had been removed was ten thousand times more poisonous than the base. Non-poisonous ptomaines were also obtained from cultures of disease-producing bacteria, and, in fact, the majority of ptomaines were found to be non-poisonous.

The next question was, if in the culture liquids freed from bacteria, poisonous substances are obtained, and if they do not belong to the class of ptomaines, how shall they be identified and classified? In 1886 Mitchell and Reichert, while studying the venoms of serpents, noted that these poisons belonged to a class of bodies different from the ptomaines, viz., to the group called proteids. Shortly after, Roux and Yersin, in their studies upon the diphtheria poison, demonstrated that this was a substance which resembled the ferments and led them to think that an enzyme, as it is called, a substance like pepsin, was the active poison, and that this enzyme was in some way elaborated by the germ. Other investigators had found a similar substance in tetanus and hog cholera cultures, and a reinvestigation by Brieger of a number of bacterial cultures showed that by participation with ammonium sulphate and alcohol very poisonous substances giving proteid reactions could be obtained. Proteids of various characters belonging to different classes were obtained from cultures of many bacteria. About this time it was shown that certain plants of a higher order contained poisonous bodies of a like proteid character. An albumose abrin was obtained from the Jequirity seeds and ricin from the castor-oil bean. These were intensely poisonous, $\frac{1}{1000000}$ of a grain of abrin being sufficient to kill an animal weighing one kilogram, or the $\frac{1}{100}$ of a grain should be a fatal dose for a man weighing about 130 pounds.

A relationship was thus established between the poisons from higher plants and from the lowest plants and certain animals. Was this poisonous property of these bacterial substances due to a true proteid, or was there an admixture of an active ferment-like substance with the proteid, and are these poisons mechanically carried down in the process of precipitation of the albuminoid matter in the culture liquids? Experiments show that while the poisons may be proteids, it is more than probable that they are simply carried down with proteid matter as indicated. Brieger, in 1893, in view of the results so far obtained, endeavored to isolate the pure poison from cultures of the tetanus bacillus. The cultures were first filtered through porous porcelain, a Chamberland or Monroe filter tube, for instance, and the liquid which passed through was treated with a concentrated solution of ammonium sulphate. This precipitated the poisons and a number of other substances which gave proteid reactions. After purification by dialysis the poison was obtained as yellow soluble flakes which no longer gave proteid reactions. It was a substance in which there was no noticeable phosphorus nor sulphur. It was thus proved that the tetanus poison belonged neither to the ptomaines before referred to, nor to the proteids. The poison, while not perfectly pure, was purer than ever before obtained, and was so poisonous that a mouse weighing $\frac{1}{2}$ oz. was killed by $\frac{1}{1126000}$ of a grain, while $\frac{1}{280}$ of a grain should kill a man weighing 150 pounds.

It is not difficult to understand how if the tetanus bacillus outside of the body can produce such powerful poisons, it can give rise in the animal organism to serious troubles. The diphtheria bacillus is another germ which forms very powerful poisons in the solutions upon which it feeds. As already mentioned, some authors, Roux and Yersin, believe that this poison also belongs to the ferments like trypsin and pepsin, while Brieger and Fraenkel thought it was a toxalbumin. We find after the germ has been removed from the culture liquid by filtration, that the poison can be separated by calcium phosphate or ammonium sulphate, just like the tetanus poison. In the purest condition in which it has been so far obtained it fails to give the proteid reaction, and $\frac{1}{64}$ of a grain will kill a guinea pig. It dialyzes readily. Bodies of a similar kind have been obtained from cholera, glanders, swine plague, tuberculosis, and anthrax cultures, while many other bacteria produce soluble intensely poisonous substances in artificial cultures as well as inside the animal body.

These products are all characteristic of the individual organism. The conditions under which the most poisonous ones are formed seem to be dependent partly, we may say, upon the humor of the germ and also upon the food offered for its use. It appears, for example, in connection with the diphtheria germ that, if there happens to be present in the beef broth upon which it is being cultivated, an undue amount of glucose and an insufficient supply of alkali, that, instead of producing a very active poison, the substance secreted is much less harmful. This is accounted for by the supposition that the glucose is decomposed into acid which, in its turn, neutralizes or decomposes the poison ordinarily produced by the germ. These poisons, it was originally supposed, resulted from the decomposition of the food of the germ, just as soluble and assimilable albuminoids are produced by the acids and ferments of the animal body from the insoluble albuminoids that are ingested as food. It has been found, however, that in most instances the poison of the germ is in solution in quantity only after the germs themselves have become partially disintegrated. In other words, the active bacterial poisons seem to be products of the cell and retained within the cell until the latter dies and the cell membrane is broken, permitting the passage into the surrounding liquid of the poison. What then is the true nature of these poisons if they belong neither to the bases nor to the proteids or toxalbumins? That, unfortunately, is one of the problems to which, up to the present time, chemical research has not been able to give a definite answer; and this, because, as we have already noted, the poisons of these bacteria are so tremendously active and consequently produced in proportionately small amount, even when a large quantity of the culture media is used, that it has so far been a matter almost of impossibility to separate a sufficient quantity of these poisonous principles to purify them perfectly for chemical analysis. Perhaps this object has been attained more nearly than ever before by some workers in the Biochemic Laboratory in this city, who have succeeded in separating from cultures of the tuberculosis germ a crystalline poison with constant melting point and a constant composition. This is not the only poison produced by the tuberculosis germ, but that it is one of the principles which is responsible for much of the trouble with this disease is beyond doubt. These special poisonous principles, which are so difficult to obtain pure, we designate by the name toxins, to distinguish them from the ptomaines and proteid substances before mentioned. Another difficulty which is always encountered in extracting the poisons of bacteria is their instability. The material with which an experiment is begun may be very poisonous, but the processes of precipitation and extraction through which it must be passed in order to obtain a desired substance are such that often, long before the final stages have been reached, the nature of the poison has undergone an entire change due to the chemical processes which have necessarily been applied.

We have said that the poisons of the germ were synthetic products which were built up within the cell-wall. Some of these easily pass through the cell-wall, due probably to the greater permeability of the living membrane; others are retained within the cell-wall only to pass into solution when these walls are broken down. Tetanus, diphtheria and swine plague allow this diffusion to take place very rapidly, while with other germs, like typhoid fever, anthrax, cholera, glanders, tuberculosis, the poison is produced and retained within the cell more firmly during the life of the latter. As the germs die, however, in artificial cultures, the cell-walls gradually disintegrate and the poison passes out into the surrounding liquid. In the case of tuberculosis and glanders a strong solution of these cell-poisons in the surrounding liquid upon which the germ has been feeding gives tuberculin and mallein, the two diagnostic agents which have been of inestimable value in detecting latent disease in men and animals, and thus preventing the spread of untold evils.

Thus the warfare first begun by the chemist with the microbes in identifying their character and relation to disease has been prosecuted for little more than a decade in endeavoring to detect the true character of the insidious poisons with which their arrows are tipped. To a certain extent, as we have seen, this warfare has been a successful one in so far as the poisons have been hunted and driven to their last stronghold, which, ere long, with the many workers in attack, must yield as heretofore to superior forces. But while this search for the pure poisons has been in progress the chemist has not been idle in endeavoring to counteract these poisons, the nature of which he did not thoroughly understand, but the evil effects of which were only too apparent. While Jenner in vaccination for small-pox, and Pasteur with his method of vaccination for anthrax, had shown that it was possible to protect animals and men from a virulent attack of disease by giving them first a mild attack (though, by the way, there are a few who contend even today that vaccination is useless), it remained for Salmon, and his assistant, Smith, in this city to demonstrate, in 1882, that the poisons of germs could be used by men and animals to fortify themselves against the attacks of these same bacteria. This could be accomplished by introducing into the circulation of the animal a small quantity of the poison of the germ, so that when the germ itself was injected the poison which it produced was without effect. What had been found true for one disease of animals proved also to be true for many others, and chemical vaccination was tried for diphtheria, tetanus, anthrax, cholera, typhoid fever, tuberculosis, glanders and a number of other diseases. But this discovery led to another, important and far-reaching. Fodor showed that the blood-serum of animals, made immune to a particular disease by injecting the animal with the poison which this germ formed, had the effect of destroying the germ of the disease. This excited renewed interest in the study of the blood, and within a few years it was demonstrated by the work of many, some in this city in the laboratories before mentioned, that this serum from previously immunized animals, not only had the property of conferring immunity upon other animals, but also of checking the disease after it had once begun. How thoroughly this fact was demonstrated, first by Behring and subsequently by Roux and others in connection with diphtheria and tetanus, has been dwelt upon often, and we know of the many thousands of lives that have been saved by the use of antitoxic serums.

To prepare these the solution of the

toxins, which we have before described, are injected into different animals, preferably horses, and at the end of six to twelve weeks the blood of these animals is found to yield a serum containing substances possessing both immunizing and curative properties which we call antitoxins. The active principle of this serum is present in a comparatively small quantity, but its influence is enormous. It does not appear to be a substance which directly chemically neutralizes the poison, but counteracts its effects within the animal in some unknown way.

But some of our friends may ask: Were not these facts discovered first by the use of animals, and hence has not this knowledge, though of inestimable value to mankind, been too dearly bought? Yes, perhaps, a score or two of guinea-pigs and sweet, lovely rats and mice have sacrificed their lives for humanity's sake. But this knowledge could not have been gained in any other way, unless by the sacrifice of human life. What mother would hesitate to sacrifice a thousand guinea-pigs for the life of her child, or, on the other hand, would wish her child to serve as the subject of experiment for others?

I have often been asked if the horses placed under this treatment for the production of antitoxins suffer. I think not, and, as an illustration, shall relate an incident which has come under my own observation; in the study of the antitoxins of the dread disease, tuberculosis. A well-blooded horse, gentle in every particular, except that he would run away upon the slightest provocation, seemed to be a suitable subject for some work. Accordingly he received an injection of the poison of the tuberculosis germ with the expectation that so high-strung an animal would rebel against these pleasant familiarities. But he was entirely too wise for this. He submitted quietly and seemed much interested while, by means of a hypodermic syringe, a small quantity of the poison was injected beneath his skin. A few days afterward, when the operation was repeated, it would have been reasonable to expect that if there had been any discomfort the horse would have rebelled against the procedure. Did this happen? Not by any means. As soon as he observed the doctor appear with the syringe and bottle he trotted toward him with pleasure, stood quietly looking around with intelligence while the injection was made, and ever afterward lent himself to the experiment with as much evident pleasure and interest as that of the investigators, or as if thoroughly appreciating its object.

It would hardly be fair to say that this dumb animal was endowed with more intelligence than some of our ill-informed but well-meaning friends, and yet would its actions not seem to indicate a high regard for scientific work and disclaimer of suffering?

Is it that they are instigated by a desire to inflict torture that scores of investigators have sacrificed their lives in searching for the poisons of dangerous bacteria and their antitoxins? Is it inhumanity which spurs them on at imminent personal risk in their efforts, which are daily yielding new and brilliant results, to find means for controlling a disease which annually causes one-seventh of the deaths of the population of the globe?

However, it is not only for protection against the two diseases, tetanus and diphtheria, just mentioned, that antitoxic serums can be prepared. Recent investigations have proved that typhoid fever, cholera, anthrax, the plague, etc., are amenable to similar treatment, and in the same department in this city that chemical vaccination received its first impetus, but by workers in the Biochemic laboratory, it has been demonstrated that two diseases that cause such losses to the farmers of the country may be controlled by antitoxic serums. Investigators in this same laboratory have shown also that a substance antitoxic to tuberculosis can be produced in the serum of animals when they are properly treated, which has undoubted and pronounced effect in checking experimental tuberculosis in small animals. When we inquire the character of these antitoxins we are almost as yet more in the dark than in our efforts to discover the exact nature of the poisons of germs. However, it has been possible to separate in a fairly pure form the antitoxic principle from diphtheria serum, a minute amount of which will confer immunity and the antitoxic principle of swine plague, .002 g. of which has been found to cure animals weighing 1 pound, and even a solid antitoxin-like substance for tuberculosis has been obtained in an impure form. All these solid antitoxic principles resemble each other very closely in their chemical tests and methods of separation showing albuminoid reactions, but in their curative properties they are totally independent the one of the other. The diphtheria antitoxic serum does not cure tetanus; the swine-plague serum does not cure the cholera.

In the case of the venom of serpents it has been found that repeated injections will make the serum of an animal antitoxic and curative against other venoms. The antitoxic serum produced by the cobra venom will protect animals and men against the bite of the rattlesnake as well as its own bite. It would seem from this that there is a very close relationship between the poisons of venomous snakes, and that immunity to one also gives protection from the other. It appears very probable also that the poisons of germs belonging to the same genus will be closely allied, and that an antitoxin for one will also be an antitoxin for the other. In fact, it has been demonstrated that the products of the bacillus coli communis will protect animals from the typhoid germ to which it is closely allied. The same effect will probably be found with many other diseases where the germs are related.

The difficulty of separating these antitoxins completely from the other constituents of the blood has made it impossible as yet to obtain positive information as to their true chemical character.

As to their action in producing immunity, one theory is that they directly neutralize the poisons which the germs produce, but this does not seem to be substantiated by experiment.

Another theory, proposed first by Sternberg, then by Metchnikoff, ascribes immunity to the action of the white blood-corpuscles upon the bacteria; while the third theory, and the one which seems most tenable in view of actual results, is that the antitoxic principle partakes of the nature of an unorganized ferment like diastase, and that its action in the body, with the aid of the leucocytes, suffices to render innocuous the poisons of the particular germs.

There is little room for doubt that in the first instance the antitoxins are the result of cell activity upon the introduced poison. Just how the cell manages to convert the toxin into antitoxic ferment is not known, probably by absorption of the toxin and subsequent secretion of the antitoxin within the cell-wall. Every added dose of toxin finds not only the leucocytes but a ferment to aid in its decomposition, and so the change proceeds more rapidly and the immunity is increased. Exactly what the chemical alteration in this substance is, has not been explained, but that there is oxidation and molecular arrangement of the toxin seems to be probable.

Thus, without taking into consideration the destruction of the causes of disease, viz., germs themselves, by means of such excellent disinfectants as formaldehyd, has the warfare against the microbes progressed. Although as we learn more of the properties and uses of their toxins we are almost forced to confess that it is not a warfare, but rather that man is learning how to train and control these microscopic forms of life as centuries before he learned how to control the animals and higher plants.

Our ideas of germs are so thoroughly associated with disease that we often forget that these germs are but the simplest forms of plant-cells which are endowed with various functions. The majority of them are not injurious to man, but very useful fellow workers if he has once learned how to manage them. The value of this cell-life in the production of wines, beer and other fermented liquids is too well known to need more than passing mention. But you may not all know to what extent the aroma and flavor of butter and cheese are due to the products of micro-organisms. Now, these products are frequently ethers and esters, sometimes acids and acid derivatives or amines, the latter a class of compounds to one of which smoked herring owes its particular flavor, and which is also formed by a number of bacteria.

When milk is first collected from healthy animals it is almost free from germs, but exposed to the air it soon becomes filled with those forms of life which are perfectly harmless. If placed under suitable conditions with regard to temperature they will multiply very readily and the milk becomes sour, due to the formation of lactic acid produced from the sugar in milk by one or more of these germs. If the germs present happen to be those giving an ether and ester which have a pleasant flavor and aroma, good butter can be made, but if they give rise to the formation of disagreeable thio-ethers and esters or some amines, the butter is poor and bad.

Now, by isolating different germs found in the milk, and cultivating them separately, so as to discover their own peculiar product, it is possible always to make butter of the same sort and flavor by first destroying the other germs present by Pasteurization and then inoculating the cream with the particular germs desired. A number of germs have been isolated from milk which will produce good butter, and any one of them is, perhaps, as satisfactory as the other, the ethereal product being slightly different and more palatable to different individuals. Of course, a great many germs have been found in milk which produce disagreeable compounds and it is not possible to tell from their appearance simply, which will be desirable plants, but it is easy to cultivate them in a small quantity of milk, note the results and select the desirable plant-cells.

Fortunately or unfortunately the use of these germs has been patented, so that in the near future we may see branded upon particularly fine butter and cheese patented in 1893, amended 1896, reissued 1908, etc. May we expect soon a patented process for sterilized breathing, eating and sleeping?

Recently it has been found that malt if inoculated with a particular ferment from the skin of the grape will be converted into wine, the ferment used giving rise to the formation of characteristic ethers, so it is certainly not beyond the limits of possibilities that in the near future American beer after a voyage to France may return as excellent champagne. When we discover too a germ (as has been done recently) that converts starch into cellulose, we are almost led to wonder if it might not be possible to produce cotton in a culture flask if the particular germs were supplied with nutritious food and a sufficient amount of carbon dioxide, oxygen and water.

The flavor of many luscious fruits and foods is due to the products either directly or indirectly of one or more of these useful bacteria, and on the other hand similar germs play an important and as yet unknown rôle in the formation of poisonous alkaloids.

Many bacteria form beautifully colored substances, reds, yellows, blues, greens and delicate shades which the art of man has not been able to imitate and the nature of which he has not yet learned. These, too, are only hiding their secrets with a thin veil which investigation will soon withdraw.

But it is not only in simple industrial processes that the products of germs are important. Man's very existence, while menaced on the one hand by a few germs, is on the other dependent upon their activity. The germs which in the soil produce nitrous and nitric acid and ammonia, and aid their assimilation by the plants, those which facilitate the decomposition of phosphates and bring the phosphorus, a so necessary constituent for the life of plants and animals into an available form, and those which aid in the destruction of dead vegetable and animal matter, play a very valuable and but little appreciated part in the continuance of the life and well-being of man.

There are many other ways in which the products of these dreaded microscopic cells are useful, but all, a very insignificant number of which we have mentioned, are only waiting man's bidding to become valuable subjects, and to show that, as has been instanced in the history of nations, conquered people often make the best and wisest citizens.

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Hoar-frost is peculiarly rich in nitrogenous compounds. It therefore increases nitrogenous matter in the forest and purifies the air.

CHRONICLE OF PROGRESS

GENERAL MEDICINE . .

Joseph P Winston, M.D., George E. West, M D.,
W. J. Robinson, M.D., L Schöney, M.D.

Measles in Lower Animals

Robert Behla (*Cent. f. Bak. und Par.*, Oct., 1896; ref. in *Phila. Poly.*) has succeeded in infecting a young pig with a disease exhibiting all the signs of measles, by inoculating its mucous membrane with the mucous discharge of a child suffering from measles.

Whooping-Cough Treated With Ichthyol

Maestro (*Sem. méd.*, No. 38, 1896) states the results obtained in a small number of cases of whooping-cough treated with ichthyol. The drug was administered in pill-form in progressively increasing doses. According to the age of the patient, from ¾ grn. to 3 grn. were thus administered daily, the dose being rapidly increased to 9 or 15 grn. in the twenty-four hours. Inhalations of a 3-per-cent. solution of ichthyol in glycerine were employed in some cases. In the cases thus treated, the symptoms rapidly subsided and recovery speedily followed.

Simple Ulcer of the Stomach

At the recent Congress of Physicians at Hamburg (*Med. News*, 1247), Ratgen expressed himself as dissatisfied with the usual treatment for ulcer of the stomach. He contended that the benefit obtained by rest in bed, hot poultices, fluid diet, and bismuth subnitrate and morphine is more apparent than real. He advocates rectal feeding. For about ten days nothing but a little water, or bits of ice, or weak brandy and water, is given by the mouth. The patient is kept in bed and poultices are applied. Under these conditions he believes that the shrinking of the stomach and the diminution of its motion, and the lessening of the secretion of hydrochloric acid, favor the rapid cicatrization of the ulcer.

The Diagnosis of Tuberculosis from the Morphology of the Blood

In a paper on this subject, Dr. A. M. Holmes (*Med. and Surg. Reporter*, No. 2075, p. 757) concludes as follows: That the diagnosis of tuberculosis, from the morphological appearance of the blood, rests upon the hypothesis that each individual has a biologic prototype in the leucocytes of his own blood. That leucocytes are independent organisms with functions analogous to those of the larger organism. That they pass through the stages of growth and decay. That disintegration of leucocytes may occur at any age. That the leucocytes are tissue-formers. That, as are the leucocytes, so is the individual. That tuberculosis is a disease characterized by tissue-disintegration. That in tuberculous blood there is abundant cell-disintegration, premature development, premature decay, and more or less deviation from the normal percentages of the various types of cells. That if there is marked disintegration in the leucocytes, it is with absolute certainty that we can predict a similar condition in the larger organism. That tuberculosis possesses a combination of blood appearances, from which a diagnosis may be made earlier than by any other means that we now possess. That these may be recognized under a high power. That they can be recognized even before the disease manifests itself in the individual. That they are sufficiently marked in tuberculous persons, or even in those with a strong tuberculous predisposition, to enable a diagnosis being made from the blood alone, without knowledge of the history or physical condition. That the real source of recuperative power is to be found in the leucocytes. That thus far no other pathologic condition has been found which presents similar appearances. That to secure an early diagnosis would enable many to avail themselves of favorable climatic changes, and thereby delay or even prevent the destructive results which would otherwise inevitably follow. And, finally, that if future investigations confirm these deductions, we may look forward to a no distant day when, if we expect to detect tuberculosis in its incipiency, we must study the leucocytes.

Typho-Malarial Fever

Gordon (*Vir. Med. Semi-Monthly*), after discussing what typho-malarial fever is, formulates his conclusions as follows:

1. Without extended bacteriological investigation, it cannot be absolutely denied that there is a typho-malarial fever, answering to the usual descriptions, and resulting from the co-operation or antagonism of two distinct germs.

2. On the other hand, it is thoroughly illogical to conclude that there is such a disease until the necessary conditions for its existence have been demonstrated.

3. A typical typhoid fever is a very common disease, whose symptomatology, in numerous instances, cannot be differentiated from that of typho-malarial. It

follows, therefore, that the two diseases, indistinguishable from each other throughout, have different causes. This is opposed to reason and the lessons drawn from clinical observation.

4. If the cause of only one case of disease on either side of the argument can be established, and if this cause be a typhoid infection, are we not justified in attributing the vast majority of all cases to the typhoid poison?

5. The appropriate use of quinine cures malarial poisoning with promptness and certainty, as a rule, and leaves us to determine the nature of diseases which it does not control.

6. Neglected cases of true malarial infection may, in rare instances, fail to yield at once to quinine, and lead to the suspicion of a typhoid element; but such cases are not, and cannot be called, typho-malarial fever, and a failure to resort to microscopic examination of the blood does not sanction a misnomer.

Intestinal Obstruction and the Use of Injections

In a paper on "Colono-Enteric Irrigation in the Treatment of Intestinal Obstruction," Edwin Pynchon (*Chicago Med. Rec.*, Dec., 1896) draws the following conclusions: That copious enemata promptly and persistently employed are indicated in the early stages of acute intestinal obstruction. That the patient must be anesthetized and suspended in a position of inversion. That the water should be as hot as can be safely used, and there should be available no less than three gallons. That a rectal tip be used which will positively control the escape of water from the rectum, and that no long colonic tube is required.

Typhoid Bathing

In a paper read before the New York County Medical Society, Dr. J. P. Thornley said that a narrow, portable tub, provided with a cloth support for the shoulders, should be used. The temperature of the water varies in different cases, from 90° to 60° F. The patient is rubbed all over, excepting the abdomen. The bath usually lasts about fifteen minutes. The advantage of a sponge bath is that it can be given by an attendant, and by squeezing the water from a height, the respirations can be powerfully stimulated. In women, children, and old people, the baths do not always act favorably. Before the introduction of the bath-treatment, the mortality in typhoid fever ranged from 17 to 24 per cent. The author then reported upon 200 cases of typhoid fever in the Presbyterian Hospital, from Jan. 17, 1893, to Dec. 31, 1895. Thirty-eight were admitted in the first week of the disease, and among these the mortality was 7.8 per cent. Relapses occurred in 23.6 per cent., and the average duration was 5.1 weeks. One hundred and twelve cases were admitted in the second week, and in these the mortality was 7.4 per cent., excluding five admitted in a moribund state. Thirty-eight were admitted in the third week, and among these the mortality was 18.9 per cent., and the average duration was 7 weeks. Seven patients were admitted in the fifth week. In these, the mortality was 42 per cent., and the average duration 7.4 weeks. Of forty-eight treated by tub-baths alone, three died, or 6.2 per cent. Relapses and complications occurred in 37.5 per cent. Twenty-six were treated by sponge-baths, and these gave a mortality of 15.3 per cent. Fifty-eight were treated by both sponge and tub-baths, and of these, nine died, or 13.7 per cent. mortality. Seventeen received neither sponge nor tub treatment. Three of these died, but all of these were moribund on admission.

Renal Diseases in Relation to Disturbances of the Alimentary Tract

Dr. Wm. Vissman read a paper on this subject at a recent meeting of the New York County Medical Society. He said that it had been shown that the ingestion of urea, even in large quantity, did not produce the poisonous effects that one would expect. The kidney was commonly affected in three ways, viz.: (1) The epithelial lining of the tubules was involved; (2) the interstitial tissue was involved; and (3) both were affected. Children suffering from acute diarrhea often show all the symptoms of uremia, from coma to convulsions, yet generally nothing would be found in the kidneys further than a cloudy swelling. In such cases thorough irrigation of the intestine usually gave such prompt relief as to indicate quite plainly the source of these apparently urgent symptoms. It was probable that bacteria enter the blood from the intestine, and are, to some extent at least, excreted through the urine. He had found that if sterilized cultures of tubercle bacilli were introduced into the ear-vein of rabbits, there would follow hemorrhages into the renal glomeruli and interstitial tissues, and later, there would be infiltration of round cells. A similar infiltration occurred in the liver and lungs. The administration of tuberculin greatly intensified this result. Other experimenters had shown that the toxins of diphtheria, administered hypodermically, are as capable of producing nephritis as are the bacilli themselves. Many persons suffer from slight disturbances of the alimentary canal without considering themselves sick, yet such individuals are often found to be voiding a urine which, when injected into animals, proves to be decidedly poisonous. In persons leading sedentary lives, the urine often contains abnormal and toxic products constantly for years, and is not infrequently the primary cause of much nephritis.

Report on Leprosy

The Committee of the New York County Medical Society, through its chairman, Dr. Fowler, reported at the December meeting that in the opinion of the committee, leprosy was probably infectious, though not necessarily contagious. In certain regions it is endemic, and here it is apparently contagious, although the mode of contagion is unknown. Other conditions than mere proximity seem to be essential before leprosy can be counted a contagious disease. Whether these conditions relate to soil, climate, food, or habits of life, are unknown. In the regions where new cases are developing, segregration is justifiable and proper; but to adopt that principle here, and apply it indiscriminately to all lepers, would be unnecessarily arbitrary, and hence unjustifiable. It would be the same as proclaiming to the community the existence of a grave danger, which is not true. Whether lepers should be treated in institutions with other persons, or assigned to separate institutions, is a question of expediency, and must be decided by our public officers. The committee thought that the quarantine and emigration authorities should make a special effort to exclude lepers.

The report was adopted without any opposition.

Epistaxis

M. Rendu (*Gaz. des Hôp.*, Nov. 24, 1896) recommends the following mixture in cases of epistaxis which have occurred repeatedly, and which have not been checked by iron, opium, or by "Eau de Rabel":

Antipyrine	50.00
Tannin	1.00
Powdered Sugar	10.00

This is especially good in cases of cutaneous or mucous angiomata

Sweating Feet, and Their Treatment

According to Frey (Switzerland), all that is necessary successfully to combat bromidrosis of the feet, is to wash them once or twice daily with a 2-per-cent. solution of formalin. Especial attention should be paid to the plantar surface and to the interdigital spaces. The fetid odor usually disappears after the end of a few days. It is well to rinse the shoes and stockings also with the same solution, particularly the inner side of the sole, which should be wiped dry after each lavage. By these simple procedures, Dr. Frey has obtained excellent results in cases which had been unsuccessfully treated with salicylic-acid powders and by chromic-acid applications.

Method of Infiltration Anesthesia with Cocaine

In *Med. Rec.* (Jan. 9, 1897) Dr. Wm. J. Johnson, of New York, explains the method of local anesthesia by infiltration, as introduced and perfected by Dr. C. L. Schleich, of Berlin, whose operations with cocaine employed in this way Dr. Johnson had witnessed over a hundred times in Berlin, and who has himself done nearly a hundred operations by the same method.

Three standard solutions are employed, which are as follows:

No. 1.	Cocaine Hydrochlorate	2.0 gme.
	Morphine “	0.25 gme.
	Sodium Chloride	2 0 gme.
	Sterilized Distilled Water	1000 c.c.
	Carbolic Acid Sol., 5%	20 drops
No. 2.	Cocaine Hydrochlorate	1.0 gme.
	Morphine “	0 25 gme.
	Sodium Chloride	2.0 gme.
	Carbolic Acid Sol., 5%	20 drops
	Sterilized Distilled Water	1000 c.c.
No. 3.	Cocaine Hydrochlorate	0.1 gme.
	Morphine “	0.25 gme,
	Sodium Chloride	2.0 gme.
	Carbolic Acid Sol., 5%	20 drops
	Sterilized Distilled Water	1000 c.c.

Even with carbolic acid these solutions decompose easily, and it is advisable to make in small quantities, avoiding the least sediment. The No. 2 solution is the one almost exclusively used. A 4-oz. mixture of this would contain

Cocaine Hydrochlorate	2 grn.
Morphine ‘‘	½ grn,
Sodium Chloride	4 grn.
Sol Carbolic Acid, 5%	2–3 drops
Sterilized Distilled Water	2000 min. = 4 oz + 80 min.

Of this, the normal or medium solution, from 3 to 4 oz. (90 to 120 c.c.) may be injected at one sitting. The three solutions differ only in the amount of cocaine. Of the strong, No. 1, from 1 to 2 oz. may be used during one operation (30 to 60 c.c.); of the weakest, No. 3, 8 to 16 oz. (250 to 500 c.c.). If Dr. Johnson uses a weak solution, he doubles the amount of cocaine in No. 3 and lessens the morphine by one-half.

Two objections are met: The first, that such small proportions of cocaine cannot do better than plain water similarly used, is met by Schleich's actual experience in several thousand cases. The second "suggestion" is met by the patient's cry of pain when the operator invades an unprepared area.

In using the solution, it is best to employ a syringe capable of holding from 5 to 15 c.c. (1¼ to 4 dr.), supplied with strong needles, both straight and curved. The skin is prepared antiseptically for the injections. The first injection can be made painless by ether spray or a touch of pure carbolic acid. The needle is introduced parallel with the skin, i. e., to give a dermic, not a hypodermic, injection. Enough is injected to cause a wheal or tense white spot. From this, as a center, injections are made beyond and repeated until the whole area is prepared.

The *rationale* is, first, direct action of cocaine and morphine on the nerve-endings; second, absolute ischemia, caused by the injected fluid and the high pressure on the tissues.

Its superiority over cocaine otherwise used lies in:

1. The absence of toxic or fatal effects;
2. The size and depth of the areas that may be operated upon;
3. The lasting effect—fifteen to twenty minutes, as against five minutes in ordinary use of cocaine.

Its superiority over chloroform or ether lies in this:

1. These anesthetics are contraindicated in some cases of lung, heart, and kidney disease, and diabetes; but Schleich's method can be used in just such cases, for amputations, laparotomies, nephrectomies, etc.;
2. Some will not take ether or chloroform through fear, who will consent to cocaine;
3. As a choice it is better, because
   (*a*) We can operate in less time;
   (*b*) Need fewer assistants;
   (*c*) Avoid danger of general anesthesia.

The Prophylaxis of Pitting in Variola

Dr. José Codina Castellvi (*Gac. med. Cat.*, Dec. 15, 1896), after citing several methods of general and local treatment for the prevention of "pock-marks," states that, in his opinion, the most rational treatment is that of Emerit, having employed this method for several months, except in cases of varioloid. He employs an ethero-alcoholic-citric solution of sublimate in the following proportions:

Corrosive Sublimate	20 gme.
Citric Acid	20 gme.
Alcohol	100 gme.

Ether, q. s. to make one litre of the sol.

With this solution the face is sprayed three times a day, from fifteen to twenty seconds. After spraying, the ether having evaporated, there remains on the skin a white, thin layer of sublimate, at times almost invisible, and over this layer is applied the following mixture of sublimated glycerin, with a soft brush:

Glycerin	120 gme.
Corrosive Sublimate	8 gme.

Misce.

This treatment is inconvenient in those that possess a thin skin. Moreover, one should take care not to prolong the spraying, because the caustic effect of the sublimate is immediate, and reveals itself by giving rise to one or more blisters that can unite to form an extensive sero-purulent collection underneath the corneal layer. Fortunately, this collection does not leave any cicatrix, only a dark spot, limited to the region that was invaded by the blisters, this spot in time disappearing entirely.

The author believes this treatment to be the most rational, because, apart from the powerful antiseptic action, it exercises a revulsive and caustic action that is completely opposed to the corrosive and ulcerative action of the dermic papillæ, which are the cause of the cicatricial formation. In the first place, owing to the superficial caustic effect of the sublimate, the corneal layer is destroyed, giving free exit to the pus, and the corrosion of the subjacent papillæ is prevented, or, by the antiseptic action, and perhaps by the caustic action as well, the germs of suppuration are destroyed *in situ*, and this is checked and retrogrades, each pustule being converted into a papule. In the second place, for the same reaction mentioned the nutrition of the papillæ is excited, and there is cell-proliferation. This aids on the one hand, to prevent the corrosion of the pupillæ, and transforms the pustules into papules on the other.

Myostitis Scarlatinosa

Dr. M. Brueck (*Arch. f. Kinderheilkunde*, Vol. XXI, 5 and 6, 1897) observed a new form of "rheumatoid affection of the muscles" in three cases of scarlatina, due, he believes, to the same cause which is productive of scarlatinal synovitis. It set in after the subsidence of the acute symptoms of scarlatina, between the second and third week, manifesting itself by spontaneous pain, marked sensitiveness to pressure, disturbance of function—as, for instance, irregular respiration when the thoracic or abdominal muscles were attacked—and in one of his cases, also measurable increase in volume of the certain muscles. The affection yielded readily to the administration of salicylates and hot baths.

PEDIATRICS

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Intussusception in Children

J. P. Pick (*Brit. Med. Jour.*, Vol. V, p. 111) thinks that this affection is fairly common. Ninety-eight per cent. of untreated cases end fatally. The causes are: Irregular peristalsis, irritation of worms, tumors, mechanical shaking of the bowels. The symptoms are those of sudden severe pain in the abdomen, viz.: Crying out and drawing up of the legs, accompanied by pallor and faintness, and emesis. The movements of the bowels are at first healthy, and later are accompanied by mucus and blood, with tenesmus and straining. These symptoms are associated with great and rapidly increasing prostration. A tumor is pathognomonic. This is not always easy to find unless under anesthesia. It lies at the seat of obstruction, elongated, dull on percussion, and doughy to the touch. On examination it often becomes harder, owing to muscular contraction. The author says that the symptoms are unmistakable when they can be elicited. It is difficult to get a clear history in case of children.

The treatment consists of reduction by distention of the bowel with air or water and manipulation of the abdomen, or abdominal section. These cases should be treated as strangulated hernia for immediate relief. The method for distending the bowel is as follows: Under anesthesia, an enema pipe is introduced into the rectum, the pipe being connected with common bellows or an inflator. The part of the tube outside the rectum is packed with wool to prevent the escape of air. This is to be held by an assistant. The child is now inverted and held by a nurse, while the bowel is distended. The hand on the abdomen shows the amount of distension. If the plan succeeds the tumor will disappear from under the hand and air will become diffused over the whole abdomen, producing uniform distension. Care must be taken that displacement of the tumor is not mistaken for disappearance. A sudden diffusion of air over the whole abdomen is a more reliable sign. When felt quietly put the child in bed with as little movement as possible.

The introduction of fluid should always be by irrigation, the reservoir being held not over three feet above the child's nates. Amount to be used in an infant under one year is one and one-half pints of normal saline infusion, at a temperature of 100° F. When an operation is performed the preferable incision is median, to prevent the escape of the intestines. The tumor is located, and the intestines just below it grasped with the finger and thumb. Proceeding along the colon successive portions of gut are grasped and the intussusception gradually pushed backward until finally reduced. If adhesions exist, or if swelling, the incision is enlarged, the tumor brought to the surface, with caution and gentleness. No traction is made on entering the tube, but the other is gradually worked off from it.

For irreducible invagination either

1. Incise the intussuscipiens longitudinally, draw out the intussuscepted part, cut it off, suture intussusceptum and intussuscipiens; or
2. Resect invagination and do end-to-end anastomosis; or rarely, if ever,
3. Form artificial anus.

Treatment of Variola

Messrs. Beclère and Dauchey, in the *Jour. de Clin.* (IV, No. 18), advise the following:

1. Isolate the child in a large, well-ventilated apartment, and vaccinate at once with 100 to 500 c.c. of vaccine serum.
2. For the pustules of the face, use the following ointment:

Mercury Ointment	12 gme.
Yellow Wax	5 gme.
Black Pitch	3 gme.

3. Three times a day the eye should be examined, and at the slightest appearance of pustules on the conjunctiva they should be lightly touched in the affected places with a nitrate of silver stick, followed by a few drops of sterilized vaseline oil.
4. The infant should be kept on a strict diet during the febrile period with lemonade, bouillon or milk, cognac or wine. The mouth should be frequently washed out.
5. The restlessness and insomnia should be combated by 0.25 ctg. of chloral hydrate in milk with the yolk of an egg.

The Advantages of Unboiled Goat's Milk as a Food for Children

Dr. Schwartz (*Deut. med. Woch.*, No. 40, 1896) believes that, through the process of boiling, cow's milk is deprived of some nutritive constituents, and children nourished with such, are, as a rule, anemic and rachitic. Goats being, by far, more immune to tuberculosis, and more selective in their food than cows, the boiling of their milk is, in the author's opinion, unnecessary. As it so closely resembles human milk, it is especially commendable for weakly developing infants and for the sick generally.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Endemic Insanity

P. M. Laffan describes, in the *Brit. Med. Jour.*, according to the *Amer. Jour. of Insan.*, an area of four square miles in County Meath, Ireland, with a population of about 300 persons, one-half of the total number of families having one or more insane, idiotic, goitrous, or suicidal members.

He attributes the large number of insane within the endemic area to consanguinity and heredity, and calls attention to the following salient points:

1. Small size of the endemic area.
2. The large percentage of unsoundness of mind, etc.
3. The marked industry of the inhabitants and the nature of it (agricultural employment) having produced no prophylactic effect.
4. The capacity of the natives for making and keeping money.
5. The disregard of marrying into families whose lunacy is well known.
6. The number of residents, neither idiots nor lunatics, who are deficient in intellectual caliber, or exhibit neurotic phenomena.
7. The presence, more or less, of goiter.

Thirty out of sixty families had the following defective members: Twenty-nine insane, seven idiotic, four goitrous, two suicides, and over a score neurotic.

Tremor

Lamarq stated at the Congress of French Alienists and Neurologists at Nancy, on opening a discussion upon tremor, that a portion of the body trembled when it described rhythmical oscillations on either side of its position in equilibrium. He classified them (*Rev. neurolog.*; ref. in *Boston Med. Jour.*) as tremors during rest (the type of paralysis agitans), and tremors on voluntary movements (the type of disseminated sclerosis); or, again, as slow tremors (three to five per second, as in paralysis agitans and senile tremor), medium tremors (six to seven per second, as in disseminated sclerosis), and rapid, vibratory tremors (eight to nine per second, as in exophthalmic goiter and general paralysis). Tremor of the hands is found in 40 per cent. of normal persons; it does not differ from emotional tremor, and is of the neuropathic type. A similar tremor is seen in 34 per cent. of hysterical patients, 85 per cent. of neurasthenics, 20 per cent. of epileptics, and 25 per cent. of the insane. The finer tremors of the tongue and eyelids often escape observation; if instruments of precision were used to detect tremor, the percentages would be larger.

Tremor is often associated with other abnormal movements; it may be co-existent with chorea, or a mercurial or saturnine tremor may be transformed into an arhythmical movement. In alcoholism, general paralysis, or sclerosis, tracings often show that the rhythm of the tremor is altered, in a transition to arhythmical movements. There are also transition forms between the tremors during rest and those during movement; mercurial tremor exists in repose, and takes on a special form on motion; in paralysis agitans, tremor may be produced only under the influence of muscular effort; senile tremor may be provoked by muscular contraction, may exist in repose, and be increased or suppressed by motion. Hereditary tremor may not differ essentially from senile tremor, and the tremor of sclerosis may be seen in meningitis or hemiplegia. Tremor may be only an unimportant episode or a symptom of great value. We cannot yet distinguish between tremor as a functional symptom and as a symptom of a focal lesion. A vibratory tremor is common in health, and the similar tremors of emotion, neurasthenia, and exophthalmic goiter may be only an exaggeration. The tremor or paralysis agitans is the only one which seems characteristic. The "epileptoid trepidation" of ankle clonus is, however, of very great value as indicating sclerosis of the lateral pyramidal tract.

Paralysis agitans and hysteria might coexist, producing two forms of tremor.

The Significance of Palatal Deformities in Idiots

"Because departures from the normal are found physically, mentally and morally in the defective classes, therefore scientific investigators have assumed that any one of these departures, occurring in the average individual, gives rise to the suspicion that the process of deterioration is already under way in him."

With this admirable thesis, W. Channing (*Journal of Mental Science*, Jan., 1897, p. 72), the author, seeks for some sound deductions on the subject of the stigmata of palatal deformities among the insane. At the outset he takes issue with those who would seek to lay so much stress upon the peculiar shape of the palate as one of the most characteristic and significant of the stigmata of degeneration.

The methods of inspection are commented upon and the necessity for accurate measurement and cast-taking insisted upon, if trustworthy results are to be gained. Talbot's classification is followed and the author investigated some one thousand feeble-minded patients, taking casts of all. He had, moreover, 500 casts from average American school children. His summary of results is as follows:

1. Two-fifths of the palates of idiots are of fairly good shape.
2. Palates of normal individuals may be deformed.
3. In the idiot it is a difference in degree and not in kind.
4. In either case it shows irregular development anatomically.
5. Palates of average children and idiots under eight years of age do not in the majority of cases markedly differ.
6. There is no form of palate peculiar to idiocy.
7. The statement that a *V*-shaped or other variety of palate is a "stigma of degeneracy" remains to be proved.

Nervous Manifestations of Syphilis

The nervous manifestations of diagnostic value in syphilis are enumerated as follows by Dr. J. N. Allison Hodges (*Med. and Surg. Rep.*):

1. Headaches which disappear if paralysis occurs.
2. Insomnia, nearly always associated with headache, and disappearing with the appearance of convulsion or paralysis. It differs from the insomnia of neurasthenia and melancholia in that it occurs in the early night, the victim arising in the early morning ready for his daily labor.
3. Vertigo, occurring usually with the headaches. It may be transient, but becomes worse as the disease progresses.
4. Tremor, present in one-half of the cases. It occurs most often in the order named: In the hands, tongue, and over the whole body, accompanied by headache.
5. Hemiplegia.
6. Erratic distribution of paralysis, as aphasia, with or without hemiplegia, ptosis, insanity, or epilepsy, with paralysis of one arm or leg.
7. The use of electricity to determine central or peripheral lesion.
8. The presence of great weakness and mental dullness. This is one of the most valuable of the nervous manifestations, being out of proportion to the seeming condition of the patient.
9. History of the case. In women, the history of many abortions would point to syphilis.

SURGERY

William B. Coley, M.D., Jarvis S. Wight, Jr., M.D.

Uretero-Ureteral Anastomosis

Dr. J. Wesley Bovée in a lengthy article on this subject, wherein he also reports all the cases to be found in the literature of this subject, formulates his conclusions as follows:

1. Uretero-ureteral anastomosis is a perfectly feasible procedure.
2. Uretero-ureteral anastomosis, whenever possible, is far preferable to any other form of ureteral grafting, to nephrectomy, and to ligation of the ureter.
3. It should be done preferably by lateral implantation, or by oblique end-to-end anastomosis, though the transverse end-to-end or the end-to-end methods may be safely employed.
4. The constrictions of the calibre of the ureter do not usually follow attempts at suturing in closure of complete transverse section of the duct.
5. That nephrectomy for transverse injuries of the ureter, *per se*, is an unjustifiable operation.
6. That simple ligation of the ureter, to produce extinction of the functions, of the kidney is too uncertain to justify its practice.
7. That drainage is not necessary if the wound be perfectly closed and the tissues throughout are aseptic.

Appendicitis—An Epidemic Infectious Disease

Professor Goluboff, of Moscow, says (*Berliner klin. Woch.*) that his observations justify him in saying that, in the majority of cases, inflammation of the vermiform appendix is an infectious disease *sui generis*, a disease as peculiar to the appendix as follicular tonsillitis is to the tonsils, or dysentery to the large intestine, and, besides, is not only an infectious disease, but occurs sometimes epidemically; in other words, besides sporadic cases of appendicitis, which may be due to some trauma, for instance, genuine small epidemics of this disease may occur.

The unusual prevalence of appendicitis in Moscow during the last year is referred to, and the following two instances are related:

In a small boarding-school, where in several years there was not a single case of appendicitis, he treated seven cases within two months.

Two brothers, pupils in a gymnasium, fell sick with perityphlitis, one after the other, and so did a schoolmate, a short time after, who visited them during their illness.

A detailed report of cases and investigations is promised in a future paper, to appear shortly.

Syphilis Treated Early and Energetically.

Manino reports (*Bull. méd.*; ref. in *Charlotte Med. Jour.*) the highly successful results of eight years' experience of this treatment. Instead of waiting for the usual symptoms to appear, the initial chancre is excised, or thermo-cauterized, and calomel injected every fortnight for from ten to twelve months (10 ctg. to 1 gme. glycerine and 1 drop water). After this, the injections are made every twenty days for three or four months; then one in sixty days for two months more, when potassium iodide is administered for 2 months; then two months more of mercury injections—this time the sublimate. The patient then rests for two months, when the iodide is recommended for a while, followed by a protoiodide, which is kept up till the end of the second year. The initial chancre soon subsides, and no secondary or tertiary phenomena have appeared in any of the cases treated during eight years. The inconveniences of this treatment, the painful injections, the temporary loss of appetite and weight, are far more than compensated by the victory over the disease, which is arrested before it becomes constitutional.

How to Make Catgut Aseptic

Surgeons who wish to be certain of the quality of catgut they use, and who are not averse to the trouble of preparing the same, will be glad to learn how one of long and extensive experience accomplishes this result. In a communication to the AMERICAN MEDICO-SURGICAL BULLETIN, J. S. Wight, M. D., LL.D., Professor of Operative and Clinical Surgery at the Long Island College Hospital, gives the following details:

First and second sizes of violin and the so-called "jim banjo" strings, that are uniformly translucent and clear, are procured from dealers. Two or 3 grn. of mercuric chloride are rubbed into 2 or 3 oz. of the purest and best juniper oil that can be obtained, made up to 8 oz. with the same quality of oil, and preserved in a ½-pint, ground-glass, stoppered-mouth salt bottle. The strength of the solution is very nearly 1-4000. The selected sizes of strings are each placed in separate smaller bottles, into which is poured sufficient of this antiseptic oil to cover them. The bottles and contents are now covered with tissue paper to exclude light, and put away under lock and key for an indefinite time. When required for use, the size or sizes needed are transferred from this juniper oil solution to bottles containing enough of the following transportation fluid to cover them:

Mercuric Chloride..............	2 grn.
Glycerin........................	½ oz.
Carbolic Acid....................	½ oz.
Mix well and add Alcohol........	15 oz.

In this solution the catgut can be transported to the scene of operation, where it is ready for use, unless the surgeon wants to soften it. This he can readily do by immersing for a few minutes in a 1-5000 aqueous solution of mercuric chloride. Strings prepared as here directed will resist absorption by the tissues for a long time, and they are very firm, supple, and strong. It is impossible to break one by a direct pull with the hands. They should be handled only with perfectly aseptic hands, and removed from the transportation solution exactly when needed. Silk sutures, after sterilization, should be kept in this same transportation fluid. They will not then cause stitch abscesses, if the field of operation is thoroughly sterilized. In an emergency, silk can be thoroughly sterilized for use by an immersion for fifteen or twenty minutes in a 1-500 solution of mercuric chloride. Long experience has shown this to be very reliable.

Cirsoid Aneurism of the Temporal Region

In a communication to the Paris Chirurgical Society (*Med. Week*, V, 2) from Dr. Roux de Brignoles, read by Dr. Nilaton, a case of this sort is reported, occurring in a man 22 years of age, who came under observation in August, 1894. When 6 years old, he had fallen, striking the temporal region of the right side, where there subsequently developed, slowly and insidiously, a tumor which was a source of annoyance to the patient on account of the spinning-wheel sound to which it gave rise. From time to time hemorrhages occurred whicn induced him to seek medical advice.

On examination, Dr. Roux de Brignoles found also vascular dilatation in the frontal, temporal, and pre-auricular regions of the left side.

The external carotid was tied and the tumor in the right temporal region was removed—a treatment which resulted in complete recovery from the morbid symptoms on this side; whereas, on the left side, the existing dilatation increased in a marked degree.

No trace of communication between the arteries and veins was discovered, though, as argued by the author, the operation did not extend to the point of communication, and the recovery was the result of the ligature of the carotid. It is not easy to account for the aggravation on the left side.

Surgical Affections of the Kidneys

Drs. J. Wm. White and Alfred C. Wood (*Annales of Surgery*, Jan. 1897) believe that, despite the number of operations upon the kidney recorded within the past fifteen years, there is still manifest an undue conservatism in dealing with renal surgical conditions. Chronic painful affections of the kidney belong properly to the surgeon. Even nephralgia is most successfully relieved by surgical measures in many cases.

An obstacle to the more rapid advancement of renal surgery is the difficulty in arriving at a positive diagnosis.

The occurrence of abscess in connection with spinal caries sometimes gives rise to renal symptoms. The authors quote Mr. Jacobson as calling attention to the great difficulty which may arise in distinguishing between certain cases of spinal caries and renal calculus. Again, Ereclisen is cited as describing a case in which an abscess dependent upon caries of the vertebræ not only assumed the perinephritic form, but opened into the pelvis of the kidney, thus simulating chronic pyelitis. The diagnosis was made by observing molecular fragments of carious bone in the pus.

A subphrenic abscess or an appendicular abscess may, in some cases, become perirenal by extension, and the condition then simulates a renal affection. Hydronephrosis, pyonephrosis, and tumors of the kidney may be confounded with such diffuse suppuration.

The diagnosis of the common renal affection is to be made upon a careful study of the history, attention to all the symptoms, and frequently repeated examination of the urine.

Stone in the kidney, if smooth and embedded in the parenchyma, may give rise to no inconvenience whatever. Usually, however, the patient will have some of the following symptoms: Lumbar pain, fixed or radiating toward the genitalia or the upper portion of the thigh of the affected side; irritability of the bladder; gravel; hematuria; acid pyuria, and renal colic. Ransohoff, say the writers, lays particular stress on the presence of red blood-corpuscles at every examination of the urine.

Palpation is at best of but occasional value. Morris has called attention to the uncertainity of detecting calculi by direct palpation of the kidney. At the present time the use of the Röntgen ray might prove an invaluable aid in diagnosis. It cannot be doubted that most kidney stones cause more or less irritation, which in time would lead to permanent and progressive organic change in the organ.

Some degree of fever is apt to accompany abscess of the kidney. This is especially true of the acute form.

The symptoms of hydronephrosis and pyonephrosis most commonly observed are a constant, dull pain in the loin corresponding with the affected kidney; this may last over a long period. Sooner or later a fullness or a distinct tumor can usually be felt. In pyonephrosis, the urine commonly contains pus; this, however, is also found in cystitis, prostatitis, urethritis, etc. It must be also borne in mind that in case of renal suppuration the urine is usually acid, while in long-standing cystitis it is alkaline. Moreover, the microscope will detect the presence of elements characteristic of a particular locality.

In speaking of movable kidneys, the writers give Tuffier's clinical classification, namely: (1) painful; (2) dyspeptic; (3) neurasthenic. Referring to the cause of movable kidney, they say it has not been determined, but it is probable that different factors are responsible in different cases. Among the causes mentioned are the loss of the fatty capsule, pregnancy, pendulous abdomens, enteroptosis, heredity, the presence of a mesonephron, etc.

The prognosis after operation for the the above condition depends upon the stage of the disease and upon the integrity of the opposite kidney.

The authors go on to consider anuria, and give various reports of different observers as to operation on the kidney, nephrectomy, nephrolithotomy, etc.

Bone Cavities Plugged with Antiseptic Substances

The *Ther. Gaz.*, (Jan., 1897) cites Isch-Wall and Reyer as stating that salol, which is soluble at 40° C., may be melted and poured into bony cavities, where it molds itself accurately to the space requiring filling and becomes practically vitreous in consistency. Liquid salol possesses the advantage of dissolving iodoform. Thus can be formed an excellent mastic with which to plug small osseous cavities that have been carefully cleaned and disinfected. The authors state they have employed this method in thirty cases, with excellent results except where, because of the depth of the lesions, the cleaning-out of the bone was not thorough.

EYE, EAR, NOSE, AND THROAT

JOHN C. LESTER, M.D., HEBER N. HOOPLE, M.D.,
VINCENT GOMEZ, M.D., WM. C. BRAISLIN, M.D.

Radical Operation for Chronic Otitis Media—Cases.

A. A. G. Guye (*Rev. hebd. de Laryng. d'Otol.*, etc.), twenty years ago, on a patient then 19 years of age, opened an abscess of the mastoid cells for chronic suppuration of the left middle ear with polypi. Eight years after he removed granulations and pus from the tympanic cavity and relieved his earaches.

Twelve years later (1896) renewed headaches and dull pains led to discovery of a large opening eaten through the internal auditory canal into the antrum. Earaches and otorrhea preceded the appearance of an abscess presenting in the external auditory canal. Guye opened the antrum, and found it large and filled with pus and masses of cholesteatomata. These he removed, and packed the cavity with iodoform gauze. Two days later, to establish a permanent cylindrical opening, he introduced a drain 12 mm. thick and 2 ctm. long. To keep the opening free, he passed through the tube a ribbon of iodoform gauze. He allowed the patient to use a saline injection daily through the tube, do Valsalva's inflation to clean the tube and renew the gauze. The patient was thus relieved of all pain, but his hearing was lost. The tube will be removed when it shall have become enveloped with epidermis.

Four years ago the author showed a similar case which for eight years up to the present has had a like permanent opening without any pain. He refuses this patient's request to have the post-auricular opening closed, certain that a relapse would follow.

Tension in Cases of Intra-ocular Growth.

Marshall, in the *Ophth. Soc. of the United Kingdom*, after giving various statistics deduced from the examination of 100 cases of glaucoma occurring in eyes having neoplasms, says, the vast majority of these cases *prove the rule* that the intra-ocular tumor bears a direct relation to the condition of the angle of the anterior chamber, and also that it is by no means uncommon to have normal or even diminished tension in eyes containing new growths.

There are one or two exceptional cases in which the tension is increased when the angle is open, and normal or diminished when the angle is closed, but these are all complicated by a gross affection of the ciliary body, leading either to a considerable diminution of its normal functions, or else probably to the opening of secondary channels through which fluid can escape from the globe.

Success of Surgery in Treatment of Certain Diseases of the Nasal Fossæ

Dr. C. Compaired (Madrid), in *Rev. hebd. de Laryn. d'Otol. et de Rhin.* (Jan. 30, 1897), gives clinical demonstration of the power of certain simple surgical procedures to cure completely, or relieve materially, diseases of the nasal fossæ which drugs of all possible selection were powerless to benefit. He claims that these surgical methods are the only treatment for that class of cases which he includes under the term *nasal stenoses*, that will give us the *tuto, cito et jucunde* of the ancients. The almost constant immunity following operations from untoward complications, inflammatory and suppurative, remarkable when we consider the great vascularity of these areas, he attributes to a condition which the nasal cavities enjoy in common with the buccal cavity, viz., an abundant secretion which catches, removes, and perhaps renders innocuous all germs which would otherwise produce damage, especially when it is assisted, as in all modern surgery, by antiseptic sprays.

Catarrhal subjects have, as a rule, narrow or stenosed nasal passages and a doughy tongue, as well as marked disturbances of the general health.

Removal of the stenosis will prevent in children,

1. Thoracic deformities and their consequences;
2. Permanent malformations of the chest, deafness, faults in speech and mental function.

In adults,

1. It will prevent and cure asthma, spasmodic cough, bronchitis, melancholia, and mental distraction;
2. In many cases stenosis is a factor in various nervous reflexes; and
3. It is an important element in many diseases in which its influence has previously been overlooked. Moreover, it causes phenomena at remote points, by continuity of tissue, by reflexes, and by sympathetic function, as, e. g., of the genital organs.

He instances an inguinal hernia produced by the mere *mechanical* effort of blowing the nose in a case of stenosis. Loss of smell is explained by shutting off the olfactory nerves from the inflowing air current by the swelling of the turbinated tissues.

Powders, sounds, medicated cylinders,

sprays, injections, irrigations with medicated solutions, tampons, and all kinds of salves were given a patient and thorough test. But surgery brings in gradual dilatation, with bougies, electrolysis, galvanocautery, curetting, slicing, use of scissors, saws, etc., ranging from the smallest procedure to the most formidable; and the more blood-letting the remedy, the more radical and efficient. Conviction is brought home by the clinics. He cites the following case:

José O. Albinane, 12 years, Ouspenski's (Moscow) type and facies, snores from infancy, and awakes often with start and fright. He has defective development, frequent acute catarrhal attacks, nose twisted to the right, tonsils hypertrophied, adenoids filling the naso-pharyngeal space, hypertrophy of turbinated bodies of right side, deviation and thickening of septum in form of a spur on left, both nares absolutely occluded. From childhood intelligent and studious, he lost his brightness and application to study commencing at about 7 years, until his look and his loss of memory made his teachers think he was losing his mind. The septal deviation was sawed off Dec. 8, 1894, and the adenoids removed. After healing, the tonsils and turbinates were cauterized. On Feb. 8, 1895, he breathed freely, did not snore, and was completely changed, physically and intellectually, and continues well to this day.

This is one of several cases of similar character, from which the author concludes that nasal stenoses develop other troubles and changes important enough to demand rapid and efficient treatment, met only by surgical procedures.

Mycotic Conjunctivitis

Fuchs (*Rev. gén. d'Ophthal.*, No. 10, 1896) reports four cases of this affection, in which he found, upon the conjunctiva, small points resembling the infraction of Weiborn, but which, on further examination, proved to be the mycotic colonies, resembling actinomycosis. The symptoms were those of a very mild conjunctivitis. Simple curetting was sufficient to remove the colonies.

Nystagmus—A Toxic Sign in Anesthesia by Chloroform or Cocaine

Dr. Galszowski, *Recueil d'Ophthalmologie* (Nov., 1896), says, that as pathologists observed spasmodic and symmetrical movements of the eye muscles in conditions of organic change of the brain and cord, so periodic and transient manifestations of nystagmus have recently been noticed and described as resulting from the use of anesthetics. Duret thought it a sign of peripheral anesthesia, which Hagem distinguishes from other nystagmus by the character of side-to-side movement. While Dartre and E. Lenoble refer it to the beginning of the anesthesia, the writer found it appear rather at the end of the second stage, or when muscular resolution was about to set in. He has noticed it oftener in anemic, weak, surgical cases, either in a choroiditis with pupillary obstruction of constitutional origin, or in arthritic and gouty glaucoma. The nystagmus was not persistent and lasted only a few minutes, not returning after the operation. Certain oscillatory movements he found only in chloroform anesthesia, never in that of bromide of ethyl. The action of the latter is milder, more transient, and less paralyzing on the functions of the cord. The automatic power persists during almost the whole time of administration; it produces no toxic effect, acts only on the nerve cells of the medulla, and so causes no nystagmus; while chloroform, on the other hand, produces the deepest toxis of the gray axis of the medulla, and, consequently, of its nerve elements.

Lenoble states that nystagmus is often produced in the most advanced stage of chloroform sleep, followed immediately by an epileptiform trembling, due to exaggeration of the excito-reflex power of the nerve centers — a condition to be attentively watched, indicating, as it does, the toxic involvement of the lower part of the medulla, an action common to chloroform, cocaine, and all other narcotics.

Nystagmus would strongly indicate the toxic involvement of the pons Varolii, especially manifest in chloroform anesthesia, but not occurring with bromide of ethyl, which acts only on the cerebral cortex.

Cocaine acting on the reflex power of the excito-motor nerve elements of the nerve centers, and paralyzing the nerve cells in a part of the medulla, causes a barrier and separation between the spinal marrow and the brain, whence the danger to life, if its action be much prolonged, as in hypodermic injections.

He employs cocaine only externally, by instillation in the eye, having observed in two cases general nervous disturbance from its too rapid absorption when used in large quantities. The signs were lateral nystagmus with starts, asphyxic excitement, tremblings in the whole body, fibrillar movements in the fingers, jaws, face, and eye-lids. In a case of strabotomy operated upon, it persisted for some time in the eye operated on, but did not affect the other.

Future use of cocaine should be guarded, in view of these toxic phenomena.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D , HOMER E. FRASER, M.D.

Hypertrophic Lichen Planus

J. A. Fordyce (*Jour. of Cut. and Genito-Urinary Dis.*, Feb., 1897, Vol. XV, No. 2) reports a case of this unusual and interesting cutaneous eruption. The patient was a male, aged 54, of good family and personal history. The skin-eruption began as small, itchy papules, over the anterior surface of the right leg. The eruption next involved the popliteal spaces. The upper extremities and trunk have never been involved. The present eruption consists of numerous closely aggregated, flat, warty elevations, of a purplish red or brown, situated over the anterior surfaces of the legs. The pubic region, penis, and scrotum were the sites of a mass of hard pinkish and purplish red papules perfectly granular and dry.

Treatment consisted of arsenic internally, and ichthyol and Unna's salve externally.

The diagnosis of a rare form of lichen planus was made by noting the presence of typical lichen planus papules over other parts of the body. Dr. T. Colcott Fox, of London, and Prof. L. A. Duhring, of Philadelphia, saw the case and concurred in Dr. Fordyce's diagnosis.

Relation of Dermatitis Herpetiformis to Erythema Multiforme and to Pemphigus

In a paper read before the American Dermatological Association, Sept. 11, 1896 (*The Amer. Jour. of the Med. Sci.*, Feb., 1897), Dr. Louis A. Duhring says that the two diseases that bear the most likeness to dermatitis herpetiformis are erythema multiforme and pemphigus. Dermatitis herpetiformis possesses clinical features common to both, but it is more closely related to erythema multiforme than to pemphigus. The term "multiformis" fails to convey any idea of the chief characteristic of the disease, namely, its herpetiformity. The term "multiformis" is general and vague, and is without special significance beyond the point that it indicates polymorphism—a feature common to certain other diseases, notably eczema. Herpetiformity, on the other hand, is eminently characteristic of this disease. Without it there can exist no dermatitis herpetiformis. In dermatitis herpetiformis the cutaneous manifestations are in most cases more intense, more persistent, and more chronic than in erythema multiforme. The formation of pustules, especially miliary and acuminate, moreover, so common in dermatitis herpetiformis, is a feature that is wanting in erythema multiforme. In the writer's experience, dermatitis herpetiformis simulates erythema multiforme more frequently than *vice versa.*

Blebs occur in certain varieties of dermatitis herpetiformis. They appear especially in the bullous and in the multiform varieties. The existence of blebs in dermatitis herpetiformis does not in itself signify a relationship to pemphigus, any more than the blebs in herpes iris indicate a kinship to pemphigus. Cases of dermatitis herpetiformis sometimes occur that partake more or less distinctly of erythema multiforme, others of pemphigus; that is to say, they possess clinical features that are strongly suggestive of one or the other of these diseases. It may be said that dermatitis herpetiformis occupies a position between erythema multiforme and pemphigus. Polymorphism is usually a prominent feature, generally more so even than in eczema, and it is likewise even more notable than in erythema multiforme. It is not, however, a constant feature. Occasionally, cases are met with in which it does not occur, the lesions being, it may be, vesicular, pustular, or bullous throughout the attack. The author believes that if, in a case of bullous dermatitis herpetiformis, the course of the disease be watched for a long period, polymorphism of lesions will in almost every instance sooner or later manifest itself to such a degree that pemphigus must be excluded in the diagnosis. Dr. D. formulates the following conclusions:

1. Dermatitis herpetiformis is in most instances a disease with well-defined, tolerably constant clinical features which enable it to be distinguished from other cutaneous diseases.
2. It is in most instances more closely allied to erythema multiforme than to any other generally recognized disease.
3. One variety, the bullous, possesses features which resemble those of pemphigus vulgaris, from which it differs in the peculiar inflammatory and herpetiform character of the cutaneous lesions, as well as in the tendency to polymorphism, the irregular evolution of the lesions, and in its course.

Tubercular Leprosy of the Face

E. Besnier (*Pictorial Atlas of Skin Dis. and Syph. Affect.*, Part IV, 1896) regards electro-galvanic cauterization as a certain means of reducing leprous formation wherever localized. The thermo-cautery may also be used for the same purpose, but its effects are more difficult to limit; cicatrization of the ulcers after the crusts separate takes longer, and, above all, the plastic results are much less satisfactory. By the method advocated, each tubercle is cauterized interstititially by means of single or multiple points, or by electro-caustic bars when the surfaces to be destroyed are large. After cauterization should follow daily spraying with weak carbolic-acid water, and dressing with sublimate or iodoform gauze, together with management of cicatrization by means of silver nitrate or zinc pencils, and the like. The same galvano-caustic application should be made to all affected points of the mucous membranes of the lips, nose, mouth, tongue, and pharynx. By their means it is quite easy to check and destroy the leprous foci so common in all these parts, and the results obtained are very remarkable. In the patient whose case is described, and in many other cases, the treatment was effective in limiting and destroying the disease in the mucous membranes.

Raynaud's Disease

At a recent meeting of the Clinical Society of London (*Brit. Med. Jour.*, March 6, 1897), Dr. Fletcher Little showed a woman, aged 19, otherwise healthy, who had developed symmetrical gangrene of the first, middle and ring fingers, which commenced during cold weather. There had been attacks of local asphyxia for some months previously. There was no similar affection of the toes. The cheeks were somewhat sclerodermatous, and the movements of the face were stiff, which gave rise to a constant simpering expression. The association of scleroderma with Raynaud's disease had been noticed by Raynaud himself. The patient had no hematuria nor menstrual irregularity. Nux vomica was the only drug that had afforded relief in this and in another similar case under his observation.

Sclerema Neonatorum

At a recent meeting (March 12, 1897) of the Clinical Society of London, Dr. A. E. Gerrod (*Brit. Med. Jour.*, March 20, 1897) described the case of a male child, of healthy parents, not in especially bad circumstances. Three or four days after birth patches of purple induration were noticed on the buttocks. When first seen, at the age of 7 weeks, the child was well nourished and showed no constitutional symptoms, and there was no depression of temperature, which was taken on seventeen occasions, and varied from 100° F. to normal. Areas of sclerematous induration were situated over the buttocks, thighs, back, and deltoid regions, and there were few outlying islets in other situations. The skin over the buttocks had a pink tint. The induration was massive, and the legs could not be extended at the hips. There was nowhere any pitting on pressure. The distribution of the sclerema was very symmetrical. The edges were map-like and well-defined. The urine was pale, clear, and contained no albumen. The induration gradually cleared up, and recovery was complete in about five months. The treatment adopted was inunctions with mercurial ointment, and later with cod-liver oil. In this case, as in one previously recorded by Dr. Garrod, the disease had evidently passed through its period of activity before the child was first seen, and this explained the absence of constitutional symptoms. In favorable cases the initial fall of temperature might be comparatively slight. The vigorous condition of the child, the absence of privation, and the fact that it was born in summer, were all factors tending to a favorable termination.

Mycosis Fungoides and Sarcomatosis Cutis

Dr. John T. Bowen (*Jour. of Cut. and Gen.-Ur. Dis.*, Feb., 1897) read a paper on the above subject before the American Dermatological Association in Sept., 1896. The article was based upon the report of two cases which illustrated the difficulty of differentiating between mycosis fungoides and skin sarcomas. After reviewing the literature regarding the identity of the two diseases, he concludes that, in the present state of our knowledge, it was impossible to class mycosis fungoides with sarcomata of the skin; still, such relationship should be borne in mind. The cases described showed the classical symptoms of the two diseases.

A New Lotion for Certain Itching Diseases

C. Boeck (*Monats. f. prak. Derm.*) recommends the following formula in dry itching, inflammatory affections of the skin:

Talc and Powdered Starch—of each..	50 gme.
Glycerin...........................	20 gme.
Lead-Water	100 gme.

This is to be diluted with twice the volume of water, shaken, and applied to the skin with a brush or mop, and allowed to dry. The effect of the lotion is cooling, antipruriginous, astringent, and antiseptic. Half of the lead-water may be replaced by a 1-per-cent. boric-acid solution, especially where the skin is tender. The lotion is contraindicated in cutaneous affections in which there is fluid discharge.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

A Case of Uterus Bicornis Septus

The patient, aged 34, consulted Dr. Fred. Edge, June, 1896, for (*Brit. Gyn. Jour.*) metrorrhagia after abortion. She menstruated at 13, and was always regular up to the time of her marriage, three years previously. She had always suffered from dysmenorrhea. A living child was born nineteen months before. A midwife attended to the confinement, labor presenting no special feature. She was extremely sick, however, during the whole of her pregnancy.

Nine weeks previously she had an abortion at about the third month, since which time she has flowed profusely and almost continuously. Upon examination, under anesthesia, the uterus was found peculiar in form; bimanually were felt two bodies uniting at the cervix. By the speculum, a septum was visible, dividing the cervical canal into two parts; a sound could be readily passed into each. With one finger in the rectum, it was possible to touch the fingers of the outer hand, above the cervix and between the two bodies. The ovaries were found, one to each horn, and presented nothing striking. The curette removed loose flocculent tissue from the left larger side, and it is probable that this side had contained the abortion. The cervix was not lacerated. The cavities measured 3½ inches on the left, 3¼ inches on the right.

A New Method of Treating Mammary Carcinoma

Dr. Geo. T. Beatson, at a recent meeting of the Edinburgh Med.. Chir. Soc., read the notes of two cases in which he had removed the uterine appendages for inoperable carcinoma of the mammæ.

The first case, a multipara, had been previously operated upon, the whole right breast, skin, axillary glands, and part of the pectoral muscle being removed, the growth having been reported as "typically cancerous." Two months subsequent to leaving the hospital she returned, there being a general involvement of the whole site. She was put upon thyroid extract for one month, with no improvement. Both ovaries (and tubes?) were then removed, the right one being healthy, the left somewhat cystic. The thyroid extract was also continued subsequently. Four months later the condition of the tissues was favorable, the most remarkable feature being the yellow fatty look that the former thick bar of cancerous tissue above the scar of the incision for removal of the breast presented, the cancerous tissue being reduced to a very thin layer in no way raised above the surrounding skin. Eight months after the operation all vestiges of her previous cancerous disease had disappeared, and she was shown with a sound cicatrix and healthy thoracic tissues; she was also apparently in excellent health.

The second case operated upon was not so marked. She was 40 years of age; no family. A mass occupied the whole of the right breast, the skin being adherent, and the glands in the axilla and the clavicle infiltrated. Microscopical examination proved malignancy. The appendages were then removed, the cancerous tumor not being operated upon. Her condition at first improved, then remained quiescent. Under the subsequent administration of thyroid extract, further improvement was noticeable, pain being absent. The patient was exhibited at the aforesaid meeting, simply as illustrative of the changes noted from time to time. The author is inclined to think that the disease is in a more quiescent stage and gives some indications of a possible cure.

A third patient was exhibited, but being inclined not to operate upon her [why, is not stated—EDITOR], she was treated only with thyroid extract, with no improvement. She was shown in order to prove that the change in the other two cases was due to the removal of the appendages (primarily), and not to the thyroid treatment.

As the result of observations upon cows and rabbits, the author submits the theory that, by removing the ovaries, the cancer-cells may undergo fatty degeneration, as in lactation, and it was upon this theory that he operated in the foregoing cases.

Indications of Treatment in the Case of Uterine Myomata

G. T. Harrison (*Am. Gyn. and Obst. Jour.*, 1896, No. 2) defines the indications of treatment for uterine myomata under the varying conditions which they present. It is not denied that the preponderating majority of women affected with myomata, if subjected to a symptomatic treatment, attain to the menopause, when the dangerous symptoms as a rule gradually disappear. To a large degree, the environments of the patient must be taken into consideration in discussing the question of a radical operation. A woman who has to earn her bread by daily toil cannot afford to submit to a long-continued course of symptomatic treatment, which her sister, in better circumstances, could choose without inconvenience. In a word, it is the individual that must be subjected to treatment, and not merely the disease.

Myomectomy is indicated under the following conditions:

1. The persistent growth of a tumor, if certainly demonstrated and occurring in a woman rather young, unconditionally demands a radical operation. In the case of subserous myomata, even if they begin to grow when the patient is near the menopause, the indication is still for a radical surgical procedure, as it may be assumed that they are nourished by their adhesions, and, consequently, that they will continue to grow during and after the climacteric. If the myoma occupies the pelvis, and by its growth causes phenomena of incarceration on the part of the bladder, its removal is indicated if it cannot be replaced in the abdomen.

2. Profuse hemorrhages, which cause intense anemia and perceptibly exhaust the patient, furnish an indication, especially when ordinary therapeutical measures prove inefficient.

3. A radical operation is indicated when the pains and annoyances that accompany the growing tumor destroy all pleasure in existence and render the patient incapable of doing any work.

4. In a certain class of cases, in consequence of the presence of the myoma, ascites is evoked, which can only be relieved by the extirpation of the growth.

The Treatment of Carcinoma and Fibroids of the Uterus, and Ovarian Disease, by Means of Gland Extracts.

Dr. Robert Bell, in a paper read before the British Gynecological Society, refers to the relationship of certain organs which exert a potent and incomprehensible influence upon distant structures. Moreover, it is not unreasonable to infer that the weakened condition of the organ affected may have been influenced by a morbid or functionally altered state of an organ in close physiological relationship.

For a considerable time the author has been devoting his attention to certain diseases of the female pelvis, and, judging from the beneficial effects which thyroid extract exerts upon the epithelium of the skin when psoriasis is present and in myxedema, he was led to infer that it might possibly be due to the absence of some obscure catalytic influence of the thyroid gland that epithelioma was enabled to take possession of the mucous membrane of the uterine canal and cervix.

It has also appeared to the author that the parotid gland exerts a most powerful influence upon the ovaries, disease of which can be brought under subjection by the administration of parotid-gland extracts of healthy sheep, calves, and pigs.

It is also beyond dispute that fibroid of the uterus, as well as hyperplasia and flaccidity of the organ, can be most beneficially affected and brought under subjection by the use of mammary-gland extracts of healthy animals. Furthermore, these extracts have also a beneficial influence upon disease of the ovaries.

A complete report of cases which have been under constant observation is given.

In epitheliomata uteri, the use of the curette is first brought into play, followed by applications of chloride of zinc or nitric acid.

The dose given of the glandular extracts, in elixir or palatinoids was usually 5 gme. three times a day.

In ovarian disease, local treatment was mainly by means of ichthyol tampons.

A New Method of Operative Treatment of Submucous Myomata

This method is that advocated by Professor Veit (*Brit. Gyn. Jour.*). Although inspired by that of Doyen, it differs considerably from the latter's method. It consists in incision of the anterior vaginal wall; separation of the bladder from the anterior surface of the uterus by means of the thumbnail as far as possible; incision of the anterior (or both anterior and posterior) portions of the cervix and the inferior portion of the body of the uterus. The portion of the uterine mucous membrane situated upon the myoma is then opened and separated by means of the finger-nail, and the myoma enucleated. The incisions into the uterus and vagina are then sutured with catgut.

The method is adopted also in many cases as a substitute for hysterectomy for myomata. The author considers this operation a real progress, in that what previously required several sittings (dilatation of the cervix, enucleation, and eventually hysterectomy) may now be done at a single sitting.

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Spasm of the Glottis

Dr. Levin (*Arch. f. Kinderheilkunde*, Vol. XXI, 5 and 6, 1897) asserts that spasm of the glottis is frequently merely reflex in character, due to digestive disturbance, and not necessarily associated with rachitis, as maintained by Henoch and his followers.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Vitality of Bubonic Germs

Dr. E. H. Wilson, bacteriologist of the Brooklyn Board of Health, in a late report to Commissioner Emery, describes some interesting experiments made at the Hoagland Laboratory with the Kitasato bacillus of bubonic plague. The object of these experiments was to determine the amount of danger there may be in bringing the germs to this country from infected regions by packages of merchandise, or through the mail. He says:

"Upon obtaining the culture, I transferred it to suitable media, and proceeded to test its virulence on susceptible animals such as guinea-pigs, mice, and rabbits; the results showed that it was still very virulent.

"It was decided to use infected articles of different absorbing properties, and consequently different degrees of desiccation, so as to approach the natural conditions as nearly as possible. Cover-glasses, pieces of filter-paper and small pieces of wool blanket were chosen for these reasons, and also because the same articles were used in the cholera experiments in 1892. These articles were placed in Petri dishes and sterilized at 150 C. for one hour. They were then infected, each piece with a drop of a twenty-four-hour bouillon culture. They were then left in a dark closet overnight to dry, and the next day placed in an oven kept at 60 C., corresponding to the thermal death-point moist heat. Every hour a piece of glass, paper, and blanket was removed and transferred to fresh media, and placed in an incubator at 37 C.

"At the end of one hour: Paper, lived; glass, died; blanket, lived. At two hours: Paper, lived; glass, died; blanket, lived. At three hours: Paper, lived; glass, died; blanket, lived. At four hours: Paper, died; glass, died; blanket, lived. At five hours: Paper, died; glass, died; blanket, lived. At six hours: Paper, died; glass, died; blanket, lived.

"Twenty-four-hour cultures in bouillon and fresh cultures on slanting agar tubes were exposed to the direct rays of the sun. Transfers were made at regular intervals as long as the sunlight lasted. Up to seven hours all the cultures grew.

"The object of this experiment was to ascertain how long the bacillus would survive on the glass, paper, and blanket at the temperature of the room (21 C.) in a dark closet, excluded from the action of the sunlight. A series of test tubes were taken and their closed ends broken open. Pieces of cover-glass, filter-paper, and blanket were then placed in the tubes, the ends of which were plugged with cotton and then carefully sterilized. The object of this was to secure a normal circulation of air. The pieces of paper, glass, and blanket were then infected each with a drop of a twenty-four-hour culture, and the tubes placed in a dark closet. At intervals of seven days these infected pieces have been removed and placed in fresh media. On all these materials the bacillus has survived up to date of this report—forty-two days.

"The thermal death-point of this organism is one or two degrees higher than that of the majority of pathogenic bacteria of the non-sporulating variety.

"Differing widely from cholera, sunlight and desiccation cannot be relied upon to limit the viability of this bacillus under commercial circumstances.

"Rags, mails, ballast, and general merchandise coming from infected ports should be subjected at either the port of departure or the port of entry to a thorough system of disinfection.

"It has been found that an exposure for two hours to a 1-per-cent. solution of carbolic acid suffices to destroy the life of the bacilli. This observation has subsequently been confirmed by Kinyoun."

Regulation of Temperature in Hibernating Animals

M. S. Pembrey and W. H. White (*Jour. of Phys.*, 1896, XIX, p. 477) consider that the most important point to be deduced from all the experiments given is that the temperature of a hibernating animal depends upon its muscular activity far more than upon the temperature of the air; indeed, a low external temperature cannot reduce the animal's temperature unless it first causes muscular activity to diminish. The authors' experiments also show that in these animals the regulation of temperature is chiefly effected by alterations in the production of heat, for the rise of temperature was always accompanied by an increased output of carbon dioxid; this was especially shown in the almost explosive discharge of carbon dioxid which takes place when the animal awakes from its hibernating condition, and its temperature mounts many degrees in a few minutes.

The enormous and sudden increase in the output of carbon dioxid and the greatly increased activity of the animal, when its temperature rises, point to the fact that the chief cause of this rise is to be sought in the increased metabolism of the muscles. Diminished loss of heat plays little or no part in this process, for the surface is more vascular when the animal is active. Further, if the animal begins to hibernate, and the external temperature is falling, its internal temperature and its output of carbon dioxid fall very quickly, and the animal is very inactive. It thus appears that the hibernating animal has little power of maintaining its temperature by diminishing the loss of heat, except in so far as the dormouse attempts to economize by coiling itself up and ruffling its fur.

The increase in the force and frequency of the heart's beat, when the animal awakes, would, by the heat arising from friction in the vessels, also tend to raise the temperature; likewise, the quickened respiration and movements of the limbs would produce a similar result. The heat, however, arising from friction in these cases would be unimportant, compared with the heat produced by the processes of combustion, which accompany contraction of the voluntary muscles. It is one of the important functions of voluntary muscles to produce heat, but from the scanty data existing, it is probable that the contraction of the cardiac muscle is, from a physical point of view, a much more economical process—work, and not the production of heat, being its function.

The hibernating animal is in many respects comparable to an anesthetized mouse, and it is possible that its production of carbonic acid and its temperature vary with the external temperature, because sensory impulses from the skin and muscles are diminished, and thus reflexly less metabolism occurs in the muscles.

The power of regulation of temperature observed in the hibernating dormouse and bat resembles closely that of an immature warm-blooded animal, and as regards the evolution of hibernation the authors would say that it is not due to the acquisition of a new power, but to the retention of one already present in immature mammals and birds.

Germs in the Mails

Up to one year ago the transmission of disease-germs through the mails of the United States was prohibited; they now, however, are allowed transportation under certain conditions: (1) The parcel should be distinctly marked "Specimen for Bacteriological Examination"; (2) the tube must be packed in a specific manner; (3) only National, State and municipal institutions engaged in this work are allowed to receive such a parcel; and (4) no postmaster is permitted to deliver the same until the representative of the laboratory to whom it is addressed shall exhibit a certificate from the Postmaster-General showing that the transaction is regular. The specimen is required to be inclosed in a strong glass tube containing not over 4 dr., and rendered watertight by a screw-cap cover and a rubber washer an eighth of an inch thick. This must be inserted in a cylindrical tin box 2½ inches in diameter and 3½ inches long, and similarly closed. The intervening space must be filled with absorbent cotton. Finally, the first tin box must be inclosed in a second one, measuring 3½ by 4⅜ inches, and lined with corrugated paper felt. The wrapper must be affixed with hot pitch or other equally adherent material.

The Incubation Period of Malarial Fever After Treatment with the Blood-Serum of Immune Animals

A. Celli and F. S. Santori (*Cent. f. Bact. und Par.*, XXI, 2, 1897, p. 49) report the results of investigations on malaria, based on the fact that in the bacterial diseases the injection of the blood-serum of immune animals did not produce any immunity to the disease. Two series of experiments are reported: (*a*) Preventive serum treatment by experimental infection, and (*b*) preventive serum treatment in natural infection.

(*a*) In the parasites of the "spring-summer" type 1.5 c.c. of the blood of the infected individual was injected beneath the skin. The fever appeared in forty-three hours in the control; thirty hours in the case treated beforehand with horse-serum; six days for the bull-serum, and seventeen days for the cow-serum. In all of the cases the same types of organisms were again found in the blood.

In the experiments on the quartan type of organism 4 c.c. of the diseased blood were used. In all of the treated cases the fever appeared on the twenty-fifth day, while average time of incubation in untreated cases is about thirteen days.

The conclusion in this series of experiments was that the period of incubation was appreciably lengthened by the use of the serum of immune animals. The author's experiments upon natural infection were too few to warrant any positive conclusions.

A Simplification of the Method of Serum Diagnosis for Typhoid Fever

E. Pfuhl (*Cent. f. Bact. u. Par.*, XXI, 2, 1897, p. 52) recommends that a platinum loop of bouillon, and a platinum loop of blood diluted 10 times with water, be placed upon a cover-glass and examined in a hanging drop.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.

Hemol as a Hematinic

Dr. J. Barfelt (*Therap. Monat.*, X, p. 533) gives the clinical history of thirty cases taken from his private practice, in which hemol was administered, and the conclusions arrived at from its use are as follows:

1. There is no doubt that hemol is resorbable, and can serve, even in very debilitated persons, for the regeneration of the red corpuscles.
2. The extremely small quantity of iron contained in hemol does not explain the clinical results obtained even as early as three weeks after beginning the administration; it rather indicates that the credit is due to the very complex hemol itself.
3. Its administration is extremely simple. Even in a case of ulceration of the stomach, its use caused no disturbing by-effects, and constipation, so inevitable when other iron compounds are administered, was wanting. Nor did the teeth become carious or black.
4. Its use is specially recommended for neurologists and dermatologists, as far as their therapeutic administration of arsenic is concerned, as the combination of arsenous acid with at least 100 times its quantity of hemol in pill form, prevents in large measure the exhibition of the disagreeable effects that arsenic produces in the stomach. There is also no doubt that the continued use of arsen-hemol exerts a less disturbing influence on the stomach than Asiatic pills, as the pepper contained in the latter may even act injuriously when the pills are taken on an empty stomach.

Xeroform

According to the investigations of Dr. Hesse, of Dresden, and Dr. Shermunski, of St. Petersburg, as published in a late issue of the Russian medical journal *Wratch*, iodoform has an extremely weak antiseptic action when in the presence of pus, and when under the influence of light it has given off small quantities of iodine. Under these circumstances there can be no question of any hindrance to the growth of micro-organisms. Xeroform, on the other hand, is so strongly antiseptic that, according to the comparative experiments of Hesse, all growth of cultures was absolutely stopped on all surfaces that were thoroughly covered with the drug.

Iodoform is only germ-free when taken from a freshly opened original package. In the receptacles in which it is kept during its use in the clinic, it becomes infected with germs which the iodoform does not kill, and which, in turn, infect the wound in which it is used; and, as iodoform can rarely be taken from a freshly opened original package, it does, as a rule, so infect the wound. In reality, iodoform ought to be sterilized by lengthy treatment with 5-per-cent. carbolic acid each time before it is used.

Xeroform, on the other hand, is and remains sterile, on account of its much stronger antiseptic action.

Xeroform dressings differ radically from those of iodoform, in that they can be sterilized at a temperature of 120° C. (230° F.)

The infection of the wound, that is the rule where iodoform is used, cannot occur with xeroform and xeroform dressings.

Ichthyol Topically in Diphtheria

Baginsky is quoted as employing the following paint, applied every hour or two with a brush:

Ichthyol	10 gme.
Mercuric Chloride	0.1 gme.
Distilled Water	100 gme.

For infiltrated cervical glands, mercurial inunctions or an ichthyol-lanolin salve, 10 to 20 per cent., several times a day, have been found of decided benefit in some cases.

Bromoform Syrup

The following formula has been warmly recommended:

Bromoform	30 drops
Green Tincture Aconite	50 drops
Syrup Codeine	1½ fl. oz.
Syrup Tolu	4½ fl. oz.
Syrup Red Poppy	4½ fl. oz.
Alcohol	2½ fl dr.

The dose can be graduated according to the age of the patient. This mixture has been found useful in whooping-cough, bronchial catarrh, and the pneumonia following measles.

Eucaine B in Ocular Affections

Dr. P. Silex has experimented with eucaine A and eucaine B in Professor Schweigger's clinic, and finds that the first of these is not nearly as valuable as cocaine. Eucaine A, the old eucaine of the market, causes but feeble anesthesia of the cornea as compared with cocaine, and its instillation is far more painful.

Eucaine B is the hydrochlorate of benzoyle-vinyl-diacetonalkamine. Eucaine is much less toxic than cocaine, differs from cocaine in withstanding a great amount of heat without decomposition, and hence may be sterilized by heat without losing its properties. The author employed eucaine B in 2-per-cent. aqueous solutions: (1) in normal eyes; (2) in diseased eyes; (3) in operative cases.

Instillations of a 2-per-cent. solution of cocaine were made in one eye, and a similar solution of eucaine in the other. Many patients thus treated felt no burning in either eye; in others, however, the cocaine instillation gave rise to more marked pain, and this occurred in the great majority. Silex instilled both solutions in his own eyes, and found the cocaine the more unpleasant of the two. In eighteen out of thirty-one observations, corneal anesthesia occurred sooner and more markedly in the eyes where eucaine was employed. It appeared after from one to three minutes, and disappeared in about fifteen or twenty minutes. The instillation of two drops every two minutes, as a rule, gave rise to marked anesthesia.

In the eyes treated with cocaine, without exception, a bleaching of the sclera showed itself; while in those eyes treated with eucaine, in one-half of the cases the appearance remained unchanged, in the other half there appeared a fine rose-colored pericorneal injection.

Silex believes that it produces a paralysis of the superficial terminal nerves. The vessels dilate, from paralysis of the sympathetic fibre. After the instillation of cocaine there occurs vessel contraction, which, by the consequent diminution of nutrition to the vessels, probably causes the anesthesia. But whether in dilatation of the vessels a stimulus occurs in the vaso-dilators, or whether there is a suspension of the activity of the vaso-motor nerves which causes this effect, the author is not prepared to state. Upon theoretical grounds, Silex believes that cocaine causes stimulation, a sort of spasm, and that eucaine causes paralysis of the constrictors. He further states that the action is entirely local.

Eucaine has no effect upon Müller's muscle. The pupil is not changed in size, and it responds both to light and convergence. He, likewise, did not observe any effect upon the intra-ocular tension in fifty normal eyes. Corrugation of the corneal epithelium was observed in all the eyes in which cocaine was instilled, but this could be avoided if the precaution was taken to place upon the eye thus treated a pad of moist cotton. This phenomenon was less marked when eucaine was used. The instillation of eucaine prior to the removal of foreign bodies seemed to be less painful than when cocaine was used. Eucaine used for the relief of pain in corneal affections usually calmed the distress sooner than cocaine. He says, however, that in iritis, cocaine and atropine act better than eucaine and atropine. The author also employed eucaine anesthesia in various operative procedures, namely, iridectomy, cataract extraction, and in all the cases the effects of eucaine, as compared with cocaine, were about the same.

Protonuclein

Dr. Lucien Loften, in the February Atlanta *Clinic*, describes this new remedy as indicated in all forms of wasting processes, anemia, indigestion, and in the various nerve affections, and as a general tonic and blood elaborator. He says that its now well-recognized influence in establishing the white blood corpuscle to its normal usefulness in the economy, bespeaks its place in scientific medicine.

It is administered internally as a tablet, containing 3 grn., while it is applied externally as a dusting powder, or may be used for insufflating purposes. It is also used hypodermically where it is impracticable to give it otherwise.

The author relates the following as typical cases of his experience in the use of this remedy:

L. W., white, aged 53, a citizen of Atlanta and a merchant, had been affected with a facial neuralgia, a typical tic, off and on, for the past three years. He had nearly all his upper teeth removed, hoping to secure relief, but in every instance failed. He resorted to a change of climate and a different mode of life, in despair. He was given innumerable anodyne preparations, which only relieved him while under their narcotic effect. His physician tried massage and electricity with no better result. When I first saw him he appeared a physical and mental wreck. Tears flowed incessantly, and his face appeared crumpled and distorted. He sat ill at ease, and looked haggard and in a state of continual fear. I was fortunate enough to see the patient have several attacks. He would jump as if startled and some hidden force had moved him; look steadily in one direction for a moment, and appear almost to lose consciousness. His eye would twitch and snap with convulsive effort, while his frame appeared cold and clammy, pulse being weak and indifferent all the while. Atropine and potassium iodide proved the rule of former drugs. An operation for resection of the nerve was advised, but this naturally was not taken to at once; but the man's suffering becoming so great, and his general health getting in the descendency so rapidly, he felt it was the only recourse. Just at this juncture, 3-grn. tablets of protonuclein were tried, one tablet being given every two hours. After a trial of two days, the man's appearance was that of a different person. His tic was gone. He appeared buoyant and full of hope, and his heart was full of gratitude. This was six months ago. The protonuclein was continued two weeks, and the man is now in a perfect state of health, without a sign or symptom of his former trouble.

J. L., white, age 67, a sufferer from acute attacks of indigestion, with fainting spells accompanying the trouble. The various anti-dyspeptic remedies were tried at times, but gave only moderate relief; the trouble, however, after a free purgation, would disappear. The patient eats most anything with impunity now, and if the slightest uneasiness occurs, as the result of undigested food, he takes a tablet of protonuclein, and experiences relief. It may here be stated his general health is daily improving.

Mrs. C. G., a married lady in her second pregnancy, some three months ago was a great sufferer from nausea and vomiting, with little or no appetite. She was given 3-grn. protonuclein tablets for three days, and is now experiencing first-class health.

Acetanilid Mixture

According to Dr. McMechan, of Cincinnati, the following mixture is very agreeable, and particularly suitable for administration to children:

Acetanilid	1½ dr.
Mucilage Acacia	1 fl. oz.
Syrup	1 fl. oz,

Tablespoonful every three hours.

Local Treatment of Chronic Gastric Catarrh

Dr. J. M. G. Carter (*American Therapist*, Jan., 1897) says that local treatment may be applied in any stage of gastric catarrh—but it must be varied somewhat in the different stages.

During the incipiency of chronic gastritis, local treatment is not essential except in bacterial cases, but is beneficial. It serves to modify the congestion, and often allays dyspeptic symptoms, even when they are more marked than usual. The use of warm water (105°) with sodium bicarbonate (3 per cent.) for washing out the stomach is frequently very valuable to remove the tenacious mucus usually adhering to the gastric mucosa, in this condition. The cold douche with water at from 80° to 60° is sometimes more grateful and helpful than the hot douche (110° to 125°). A continuous effect may be secured by using a double tube and permitting the inflow and outflow to progress simultaneously. The soda solution dissolves the mucus and the steam washes it away. Weak soapsuds may be used with the tube for the same purpose. More satisfactory in many instances is the use of a solution of hydrozone. A glassful (8 fl. oz.) of a 2- or 3-per-cent. solution may be given half an hour before meals. If used as a douche with the tube, a 5- or 6-per-cent. solution is not too strong, and two quarts the minimum amount. These douchings may be given from one to six or seven times a week.

The inflammatory process is fully developed in the second stage and while there may be weeks or months when there is little if any suffering, the treatment should be persistent. The cleansing of the gastric mucous membrane must be systematic and thorough. This is best accomplished with a solution of green soap of a 5- or 8-per-cent. solution of hydrozone, introduced with the double tube. For home treatment, or when the tube cannot for any reason be used, a solution may be made for drinking. For this purpose a 2- or 3-per-cent. solution of hydrozone is prepared. The patient may take a glassful (8 oz.) half an hour before mealtime. He should lie down at once, remain five minutes on his back, then turn on the right side, where he must remain during the remainder of the half-hour. While the patient is on his back, the solution comes in contact with every portion of the gastric mucous membrane, and turning to the right side facilitates the emptying of the stomach. By this process the offending mucus is dissolved and carried away, and the organ is put into a proper condition to digest food. The use of hydrozone has the additional advantage of checking the growth of the bacteria, and probably exhibits greater antiseptic properties than any other agent that can be used in the stomach with the same degree of safety. In obstinate cases this cleansing ought to precede every meal.

After the stomach is cleansed it should be treated with soothing, stimulating, and healing applications. When hydrozone has been given before meals, as already suggested for cleansing purposes, glycozone may be administered in teaspoonful doses after meals with very satisfactory results. This line of treatment is frequently so successful that cases are temporarily relieved, and possibly often a cure effected, particularly if the general treatment has been judiciously carried out.

If, for any reason, glycozone cannot be employed, the essential oils may be used. The oils of anise, peppermint, cubebs, and tar may be combined and used with a nebulizer.

REVIEWS

Inebriety: Its Source, Prevention and Cure.—By Charles Follen Palmer. Pages, 109. 1897. Fleming H. Revell Company, New York, Chicago, Toronto.

In this dainty little volume, which leaves nothing to be desired from a typographical point of view, the author tries to convince his readers that inebriety is a disease, pure and simple, and requires proper medical and hygienic treatment. The notion that an inebriate is to be despised as a morally degraded person, the author regards as a relic of barbarism. Heredity and a neuro-psychopathic constitution are considered the two chief predisposing causes. All through the book the author shows a deep, heart-felt sympathy for the unfortunate victims of alcoholism. As to the prevention and cure of inebriety, the author has nothing new to offer us: rigid exclusion of all stimulants and narcotics, fresh air, exercise, and the development of will-power and self-control. Upon the latter point the author lays the greatest stress, more than half of the book being occupied in advising how to build up moral manhood.

The language is at times heavy and obscure, but on the whole very pleasant and elegant. At the end of the book there is appended a fanciful diagram of the moral manifestations resulting from the normal and abnormal conditions of the nervous-mental structure.

We think that the book could be read with a great deal of profit by the members of the W. C. T. U.

An American Text-Book of Applied Therapeutics for the Use of Practitioners and Students.—Edited by J. C. Wilson, M.D., assisted by Augustus A. Eshner, M.D. Philadelphia: W. B. Saunders, 925 Walnut street; 1896. Price, $7, cloth; $8 in sheep.

This volume of more than thirteen hundred pages is edited by Drs. Wilson and Eshner with the assistance of forty collaborators. Many of the authors are well known through this country as noted teachers in the various special departments of the medical science and two are from abroad. They have presented in this volume in condensed form a large amount of very valuable information. It is as it were an appendix to works on the subject of the practice of medicine. It fills a gap, which has long been felt by the careful student to exist in most works upon the practice of medicine, namely, how to treat disease? Here we have a work devoted exclusively to that particular question. The name of the disease is given, its etiology, pathology, and symptomatology being omitted The treatise is limited to the modern treatment of disease. All questions that are purely surgical are omitted.

The sections upon "the acute poisonings," "food infection," and "drug habits" are especially valuable presenting as they do a large amount of serviceable information which is not easily found either in works upon materia medica or in the general works on practice of medicine.

This book appears to be devoted almost exclusively to the drug medication of disease, for with few exceptions, the hygienic and diatetic treatment of disease is very meagerly given and in many instances omitted altogether. This we are inclined to regard as a great defect in a work of this character. The treatment also seems to be directed more directly to the relief of symptoms, than to the removal of the pathological condition.

Diet is brought into prominence in connection with pregnancy, in infant feeding, after weaning the baby in nervous diseases, and in connection with endocarditis.

Very little attention is given the important subject of intestinal indigestion in adults, which condition is perhaps responsible for almost every disease, in that it excites malnutrition and thus lays the foundation or becomes the chief predisposing factor in the development of both acute and chronic diseases in general. No mention whatever is made in regard to its diatetic treatment. In fact, the treatment recommended is that which is more likely to be of avail in the infant class rather than in the adult.

While there are here and there many points that will bear criticism, the work taken as a whole is worthy of high commendation. The book will unquestionably be found of great value to every practitioner who will take the pains to study it carefully.

The index is excellent and is absolutely indispensable in so voluminous a work, without it the book would in a large measure be valueless. The printing is good and the binding substantial.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections: From Models in the Museum of the Saint Louis Hospital, Paris.—Edited by J. J. Pringle, M.D. Part VIII. Philadelphia: W. B. Saunders Price per part, $3.

The four plates accompanying this number, "Epithelioma Arising from a Lupus Scar," "Erythema Iris," "Lichen Planus of Wilson," and "Biskra Button" are excellent. The accompanying text, fully descriptive of the plates, and found in all the numbers, makes this work one of the most valuable additions to the literature of affections of the skin. The presswork continues to be of the best.

The Medical Annual and Practitioners' Index.—A work of reference for medical practitioners. 1897. Fifteenth year. Bristol: John Wright & Co. London: Simpkins, Marshall, Hamilton, Kent & Co., Ltd.

The International Medical Annual and Practitioners' Index. 1897. Fifteenth year. New York: E. B. Treat, 241-243 West 23d street. Chicago: 199 Clark street. $2.75.

The text of the present number of the Annual is furnished by some forty contributors, each an authority in his particular branch of medical science. By these men the advances made in the several branches are fully but concisely stated. Appended to each section is a complete bibliographical reference, extremely useful to the student and supplying the place of an independent medical index.

Scattered throughout the book are numerous illustrations, wood-cuts, typogravures, and lithographs, the majority of which are excellent, and add much to the value of the work.

As the years pass the Annual improves—the present number being superior to those of preceding years.

The appendix supplies reports and drawings of the recently-invented surgical appliances. The International Medical Annual contains the same text and the same illustrations as the English edition. Upwards of forty physicians and surgeons of international reputation have contributed to the volume.

◆

A Minneapolis, Minn., gas company has for years allowed sufferers from whooping-cough to enter their shops in order to get the benefit of inhaling the fumes that escape from the "purifying box." It is claimed that many patients thus treated have been greatly benefited.

American Medico-Surgical Bulletin

A JOURNAL OF PRACTICE AND SCIENCE

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Editor: ROBERT G. ECCLES, M.D.

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EDITOR'S NOTES

A large number of the readers of the BULLETIN, in different parts of the United States, have already written to their Senators at Washington, requesting them to use their influence against the Antivivisection Bill, S. 1063. We again urge all those who have not done so to do it at once.

From a late number of the *Southern Clinic* we clip the following complimentary notice:

> AMERICAN MEDICO-SURGICAL BULLETIN, New York.—Yes, gentlemen, we will be glad to exchange with you. We answer your private letter thus publicly, because we wish to further introduce you to our readers, and induce them to subscribe to your excellent publication.

The *Clinic* is a bright, spicy Southern medical journal, that we welcome to our list of exchanges, and hope that our contents will prove as valuable to its staff as its contents are sure to prove to ours.

The American *Medical Journalist* has lately added a new feature to its pages in the form of an editorial index. All the leading editorials of the medical press of the United States are referred to by title, so that each reader of the *Journalist* can see just what is uppermost in the minds of brother editors. This valuable addition should and no doubt will, prove exceedingly suggestive as to topics for discussion, and must tend to raise the quality and tone of editorial work by stimulating a desire not to be behind the best. Only in rivalry is there likely to be great improvement, and the "Index Editorialis" is pretty certain to stir up a little, very much needed, rivalry in this direction. We certainly commend the *Journalist* for this addition to its interesting pages.

The wise editor of the *Denver Times*, in his issue of March 12, tells his readers that the "Anti-spitting ordinances will doubtless be successful when the great American disease of *intestinal catarrh* is cured." He says that until such a cure is accomplished the "ordinance will be as effective as are most of such laws." It will certainly be news to American physicians that there is any such great American disease as he names, and if there were its having any connection with spitting would be highly amusing. We fear that the anatomical knowledge of this particular editor is extremely "shaky."

It is a pity that civic pride in some of our Western cities causes inflated figures to be published regarding their population. They think it has a tendency to boom their cities by showing a rapid growth, and it also helps them to claim greater immunity from disease and death. It certainly falsifies the vital statistics of the country, and retards the progress of medical and sanitary science by providing false and misleading data. Such cities are likely in time to suffer for such conduct, by drawing an increased number of sickly people to their doors to poison their air with fresh accessions of germs. When true statistics are finally had, they find themselves worse off than if they had told the truth or said nothing.

According to the *Commercial*, of Louisville, Ky., the sanitarians of that town have been badly puzzled to know what to do with criminals or paupers suffering with erysipelas. About two years ago a poor fellow who suffered from this affection could not in that city find any place where he was welcome or where he could receive medical attention. The *Commercial* says "he died like an outcast in a city of barbarians." A new case of similar character is before them for disposal. This time it is a prisoner at the jail. The City Hospital will not receive him because he would endanger the patients there. The Eruptive Hospital will not receive him because he might catch smallpox or scarlet fever there, and, besides, he would infect the ward in which he might be kept with erysipelas germs. There is no trouble about disposing of scarlet-fever patients, measles patients, or smallpox patients in the Eruptive Hospital, but those in charge cannot tell what to do with erysipelas patients. We pity their plight and suggest that they call in some practising physician for the city to enlighten them as to how to manage such a case.

Prof. Austin Flint lately made a speech before the Quill Club, of New York city, on "Disease and Crime." In the course of his remarks he is reported as having said that the children of the poor should not receive an education beyond their station in life, as it gives them desires for positions in society they cannot attain. We cannot understand where or how the professor would draw the line any more rigidly in this particular than necessity now does it. The very poor cannot afford to send their children to school any longer than to gain the simplest rudiments of an education. While there is no doubt of the truth of his claim that knowledge creates discontent of a low and desire for a high station, we cannot see that this is a bad thing to encourage. It makes them struggle the harder to advance, and while they may not attain what they seek, they will approach it more nearly than if they never tried to get there.

Free text-books in public schools are now coming in for attention on the part of reasoning sanitarians. Books that have been handled and used daily by children just prior to their being taken down with scarlet fever, measles, diphtheria, and other contagious diseases, are turned over into new hands to sow new crops of the seeds of death. The same books, when taken home for study, are carried into the sickrooms of those already down with such diseases. There is no way of thoroughly disinfecting text-books without destroying them, and even if there were, they change hands so often that it would have to be constantly called into requisition. The system is a dirty and unsanitary one and should cease. Children should buy and use their own books. Parents that would not listen to the suggestion of clothing their children in second-hand garments, or furnishing their houses with second-hand furniture, will permit their little ones to use these worse than second-hand books.

The semi-centennial meeting of the American Medical Association, which will be held in Philadelphia on June 1, 2, 3, and 4, 1897, bids fair to surpass, in the character of the entertainment, the scientific papers, and the number in attendance, any meeting which has heretofore been held. The Committee in Charge have been able to obtain large and roomy places of meeting for the general meetings and the section meetings, all within a single block, and within very short walking distance or immediately adjacent to the largest and most comfortable of the Philadelphia hotels. For the week preceding and following, the Committee of Arrangements have also arranged for clinical courses, which will be open without charge, to all physicians who may visit the city at that time. These courses cover every branch in medicine and its specialties, and will afford visitors the opportunity of seeing the active clinical work of all the great teachers of Philadelphia, which is now, as it has been for so many years in the past, in every respect the medical center of the United States.

The Philadelphia *Medical and Surgical Reporter* of April 24 contains an editorial on "Suicide Among Physicians," in which our note of April 10 is replied to. The *Reporter* holds that an insane impulse on the part of the physician is the main exciting cause, but points out that there are a number of predisposing causes. We are somewhat surprised at its statement, that in "most instances it is mere sophistry to presume to say whether the predisposing or the exciting cause was the most important." We have always held the opinion that the exciting cause is always and everywhere the one of most immediate importance. Patients can live to old age under predisposing causes of disease and not break down, unless some exciting cause steps in. No suicide would be likely to occur if only predisposing causes existed. It is only after an exciting cause enters that the mischief is done. We cannot see that the *Reporter* has yet satisfactorily answered the *Augusta Chronicle*. It is not enough to say that druggists and chemists, as well as doctors, have a high suicide rate. The question is as to why the rate among doctors was, in the three years referred to by the *Chicago Tribune*, higher than that of all other professions combined. If an *insane* impulse is the governing factor, there should be no choice of methods of dying. The doctor should not wait till he gets home, but kill himself just when the impulse comes. To wait is to prove the absence of such an impulse, and the presence of deliberative judgment and choice.

NEWS

The Omaha Medical College graduated a Chinaman in its class of '97.

Baroness de Hirsch has lately donated one million francs for a hospital in London.

Dr. William Vissman has been recently appointed editor of the New York *Polyclinic.*

The *Texas Health Journal* and the *Texas Medical Practitioner* have merged together

The New York County Medical Society recently expelled one of its members for advertising himself.

The Anti-Spitting Crusade has reached Washington, and the new law will go into effect this month.

Boston, Mass., is at present having an epidemic of cerebro-spinal meningitis which seems to be increasing.

Women physicians will hereafter be eligible to the position of "interne" at the county hospital of Denver, Colo.

The osteopathy bill, passed recently by the Colorado Legislature, has been vetoed by the Governor of that State.

A Clinton, Mo., man has brought suit against the board of health because it quarantined his house for smallpox.

It is reported that "commission" business between some doctors and druggists of San Francisco is largely practiced.

Denver, Colo., is trying her level best to have the American Medical Society meet there in 1898. Columbus, Ohio, also wants it.

Nine Meriden, Conn., physicians were recently fined six dollars each, for violating the statute in regard to the returns of vital statistics.

Havana, Cuba, is still suffering from a raging smallpox epidemic. A nearby town of 8000 inhabitants had 150 deaths in one week.

The State Lunatic Asylum of Missouri has been turned over to the new board appointed recently by the Governor, which is composed entirely of homeopaths.

The Commissioners of Charity of New York have received an appropriation of one million dollars for the erection of new hospitals and the prosecution of hospital work.

The secretary of the Anti-Vaccination League has been lately circulating petitions, in Chester, Pa., for signatures protesting against compulsory vaccination in that State.

The college and dispensary portion of the New York Infirmary for Women and Children was destroyed by fire on April 22, 1897. The loss will probably amount to $75000.

The Department of Correction of New York has recently organized a Medical Board, composed of the visiting physicians and surgeons to the various institutions under that department.

Three cases of smallpox were recently discovered among the children on Randall's Island. Wholesale vaccinating of the inmates of the Infant Asylum and House of Refuge followed.

The Denver, Colo., Health Board is alarmed over the increase of scarlet fever in that city. Children affected with this disease have been found taking rides for their health in the street cars.

The Wisconsin medical bill providing for the appointment of a board of medical examiners has been signed by the Governor of that State, although he says his own personal views were against such legislation.

The *Register* of Des Moines, Ia., says that Dr. J. A. Scraggs, a member of the State Board of Health, has disappeared with $2,300 belonging to the Keokuk Medical College, in which institution he was one of the faculty.

The ethical question is likely to come to the front again at the next meeting of the American Medical Association. The Cleveland Medical Society has rebelled and its members insist upon the right to consult with irregulars.

According to the Wooster, Ohio, *Republican* Dr. Wm. B. Sprague, of Coldwater, Mich., has passed his one hundredth birthday, but does not now practice. Dr. Chas. H. Wilgohs of Doylestown is still practicing, though aged 94 years.

The Salt Lake *Tribune* says: "As surgery is going on, it looks very much as though in 25 years more the expert surgeon would be able to trim a human system in a way to convince the world that about half of it is superfluous anyway."

The New York *Evening Journal* says: There will be no official examiners of spectacles this year. The Assembly killed the Horton bill to create an "examiner in optometry." It was denounced as a scheme to allow opticians to usurp the business of oculists.

Dr. Stephen Smith, of New York city, says there are 105 dispensaries in New York city and twenty-two in Brooklyn, and that in an overwhelming majority of these no investigation is made regarding the ability of the patients to pay for treatment.

Dr. Gibbons, President of the California Medical Society, holds that the Federal Government should undertake the regulation of medicine and medical men throughout the country, and a national board of health should be appointed to manage all matters regarding the public health.

A medical practice act now pending in the Illinois Legislature provides that—"Any person who shall by writing or practice or any other method profess to the public to cure or treat disease or deformity by any drug, nostrum, manipulation, or other expedient, shall pay a license of $100 per month."

The *Virgina Medical Semi-Monthly* is up in arms against the State license tax on all city doctors. The doctors who have been in practice five or more years, pay the State $25.75 per year and the city of Richmond adds to this a city license tax varying from $20.00 to $75.00 according to the income of the doctor.

An arrangement has been made with Thomas Cook & Son to carry the delegates to the International Medical Congress at Moscow and to visit various towns in Italy, Switzerland, Austria, Norway, Sweden, Germany, Russia and home again for the sum of $560. The party will leave New York by the North German Lloyd steamer *Werra*, on Saturday, July 3, and return to New York again by September 24.

A delegation from the County Medical Society and the New York Medical League protested to Mayor Strong recently regarding the selection of visiting physicians and surgeons to the City hospital. They said the selection should be made from the profession at large instead of taking them from certain colleges, as is done now. They also intimated that one of the present Charities Commissioners should be removed in order to make a place in the board for a physician.

OBITUARY

Dr. Ernst Kramer, of Milwaukee, Wis., on April 18, aged 64 years. He graduated at the Frederick William University of Berlin, Prussia. in October, 1856. He was the surgeon on the first steamer that the North German Lloyd Company sailed to New York. In 1859 he resigned and went to Madison, Wis. From 1861 to 1865 he served as surgeon in various Wisconsin regiments during the war. In 1865 he settled in Milwaukee, where he has since resided. For nearly twenty years he was examining surgeon of the Government for pensioners and home physician to the Salesianum, Pio Nono and Orphan Asylum at St. Francis.

Dr. Andrew Otterson, of Brooklyn, N. Y., on April 14, aged 75 years. He graduated from the University of the City of New York in 1844. and at once began practice in Brooklyn, where he has resided ever since. He served three terms as Commissioner of Health for Brooklyn, and several terms as president of the Medical Society of the County of Kings. He was the oldest surviving member of that Society, and it celebrated the fiftieth anniversity of his graduation by a banquet.

Dr. Chas. M. Shields, of Richmond, Va., on April 16, aged 41 years. He graduated from the Virginia Medical College in 1879. After spending a year in a hospital he began general practice, but after a few years took up eye, ear, nose and throat work to the exclusion of everything else. Four years ago he was appointed Professor of his specialty in the Virginia Medical College, which position he held at the time of his death.

PUBLISHERS' DEPARTMENT

ANTITOXIN IN BOTTLES

Mulford's Diphtheria Antitoxic Serum is supplied in sterilized glass-stopple bottle, hermetically sealed. The advantages of this are three-fold. The bottles are strong, so there can be no loss from breakage. They are easily opened, and will stand erect while the serum is being drawn into the syringe. In opening the vial there is no opportunity for fragments of broken glass to fall into the serum. While the seal is still intact the physician knows that the package has not been broken and that the serum is clean and sterile.

In instances where it is desirable to inject part of the contents of the vial after an interval of several hours, it is only necessary to securely replace the stopple.

RED BONE MARROW

Red Bone Marrow has been used by the medical profession only a short time, but long enough to prove itself to be a valuable remedy in treating anemia, chlorosis and all diseases resulting from defective hemogenesis. Clinical reports show that many cases that resisted iron, arsenic and other drugs formerly prescribed yielded promptly after being put upon a reliable marrow preparation. Armour & Co. are preparing an Extract of Red Bone Marrow and offer samples to physicians who are not acquainted with their product. Their facilities for obtaining the fresh medulla are unequaled.

IMPERIAL GRANUM

A prominent Vermont physician writing to thank The Imperial Granum Company for copies of their famous Clinical record, adds the following convincing words as to the merits of their product as a food for children :—"I can show a baby that has been reared on Imperial Granum after trying numerous other foods until he was reduced to a mere skeleton — that is now as tough and strong a boy of fourteen months as can be found anywhere."

AN ACROSTIC—LA GRIPPE.

A-ll the nerves go on a bender,
N-ot an organ is exempt,
T-eeth and scalp and muscles tender,
I-cy chills, the bones pre-empt;
K-aleidoscopic are the symptoms legion,
A-s they overrun the system,
M-aking life a weary region,
N-o one able to resist them.
I-s there nothing that will cure?
A-ntikamnia will, I'm sure!

FREDERICK B. SUTTON, M.D.
Atlanta, Ga.

WHAT WILL ERGOTOLE DO?

For the purpose of answering this question, W. H. Morse, M.D., F.B.S.Sc., the author of "New Therapeutical Agents," has made a series of open researches, and has arrived at the following deductions:

I.—Ergotole does not produce, influence, or dispose to any symptoms which are referable to the gastro-intestinal canal or the cerebro-spinal axis. These symptoms include gastric pain, nausea, vomiting, and in some subjects purging. These symptoms are due to a local irritant action. Therefore,

II.—*It is not an irritant.* A puppy, treated for four days with hypodermics of Ergotole, showed no evidence of inflammation of stomach or intestines; while another puppy, similarly treated with fluid extract of Ergot, showed both gastric and intestinal patches of inflammatory redness.

III.—Its action on the vaso motor nervous system is intense.

IV.—It diminishes blood-supply more readily than any other vaso-motor excitor.

V.—Its action on the unstriped muscular fiber is without fault.

VI.—Employed hypodermatically it does not cause structural alterations of the tissues.

For these reasons Dr. Morse welcomes Ergotole as an important addition to the new materia medica,—he calls it "a pure Ergot."

THE FRANKLIN MILLS COMPANY

The fine flour of the entire wheat, ground by the Franklin Mills Company, Lockport, N. Y., containing as it does all the phosphates, mineral salts, and gluten of the entire wheat, is recommended by many physicians for use in the preparation of food for those suffering from weak stomach, because it is easily digestible. Nourishing as it does every part of the body, it is held to be especially valuable in the diet of children.

Attention is directed to the advertisement of the Franklin Mills Company on another page of this issue.

American
Medico-Surgical Bulletin

Vol. XI NEW YORK, MAY 25, 1897 No. 10

EDITORIAL

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

IT is a well-attested fact of Nature that, as a rule, the forces that make most directly for progress and the betterment of things are quiet, unostentatious or noiseless. The invisible sap in plants, the blood-currents coursing through animals, the peaceful workings of industrial forces, and the steady growth of science go on almost unnoticed and unknown. Tornadoes and earthquakes with their wreck and ruin, war with its glittering panoply, and cataclysms of every kind are usually heralded by din and clamor. Events that the masses make much of, and that history is most likely to record, are really of small moment as directing powers along the way of human advancement. A few months ago and the streets of Washington were packed with surging throngs of people from all over the Union. To their thoughts that occasion was a great one, and to them the events of that day seemed momentous. A deeper view of Nature's processes will readily show that that was a small affair when contrasted in results with those sure to follow from the assembly in the same city of the Congress of American Physicians and Surgeons on the fourth, fifth, and sixth days of the present month. On no other occasion, within the remaining years of the present century, is that city likely to entertain a more important gathering. It was there to discuss problems of life and death, of disease and health for the whole nation. Specialists representing every department of medical science were there; men with scientific minds, and men familiar with the keenest methods of modern research, took part in the meetings. Thought must necessarily have fertilized thought, and will yet give birth to new ideas and new discoveries of truth. Such meetings cannot but terminate in the production of a world of good, in which all the human family is sure to share. Each idea advanced was a suggestion to other minds than the speaker's, even where it was rejected. Many new thoughts were evoked that will lead sooner or later to new researches and fruitful results.

A peculiar feature of the congress, and one that must have struck many of those present as rather remarkable, was the dearth of contributions on the Röntgen rays. While there were three papers and a number of scattering references made to this new and important subject in several of the departments, it received nothing like the attention one might have expected. A subject so important, so novel, so useful, and so promising, we should almost have expected to have claimed as much or more attention than any other topic. Why it did not is an interesting question. The papers were by Dr. J. W. White, of Philadelphia; Dr. F. H. Williams, of Boston; and Dr. A. M. Phelps, of New York. Each chose a single phase of the subject. No one sought to sum up the results accomplished by the rays in the field of medicine during the last year. No one suggested any new direction in which they could be advantageously used. No one gave any new and unpublished results of their powers. It cannot be that this apparent slight of what is perhaps the most important gain to modern surgery and modern medicine of the nineteenth century was an intentional one. There must be some cause for it. Did every writer think it had become too hackneyed a subject to deal with in this convention?

The topic that attracted the greatest amount of popular attention was the antitoxin treatment of diphtheria. A committee of four physicians had been appointed by the American Pediatric Society to make a collective study of the use of anti-toxic serum. The chairman of this committee, Dr. William Northrup, of New York, read the report. It was listened to with great interest, and reported under heavy headlines by the Washington daily papers. The committee had received returns from 422 physicians residing in twenty-two States, the District of Columbia, and Canada. An analysis of 1700 cases of laryngeal diphtheria treated with this remedy showed a fatality of only 17 per cent. They had found that many physicians had shown great fear of the serum, and instead of giving proper doses, had cut the amount down to from one-fourth to one-tenth of what they should give. In the 1700 cases fairly tested there was not a single accidental death, and nothing to show any cause for such fear.

At every medical meeting, from the County Society to the International Congress, the great majority of papers treat of so-called interesting cases. No one ever tries to discover a principle or law underlying such cases, as they multiply from year to year and mount up to millions. The Washington Congress was no exception to this rule. Aside from these, the themes that commanded the most attention and consumed the most time were directly or indirectly connected with the work of the bacteriologists. There are those in our ranks who pretend that such topics are gaining less attention from medical men, and that we are reverting to clinical experience as our only guide. The testimony of this congress is against any such conclusion. The hold of bacteriology and bacteriological discoveries is gaining new strength continually. The very best men in the profession are believers in these studies and foresee a great future for medicine developing therefrom. This branch of experimental science is but an infant yet, and its toddling steps are not all certain. If an occasional fall occurs, the pessimist will say, "I told you it had no stability." Give it time. It will yet surprise even the present generation with its prowess.

The unveiling of the statue of Dr. Samuel D. Gross, the eminent Philadelphia surgeon, had much of the interest taken from it by the inclement weather. The speeches had to be heard in the library hall of the Army Medical Museum, instead of on the grounds of the Smithsonian Institute, where the statue stands. Dr. J. Collis Warren, of Boston, presided, Dr. Claudius H. Mastin, of Mobile, Ala., delivered the presentation speech, in behalf of the alumni of Jefferson Medical College and the Association of Surgeons. Surgeon-General Sternberg accepted the statue in behalf of the Government. Dr. Wm. W. Keen, of Philadelphia, delivered the address of the occasion, in which he recounted in glowing terms the life-history and great work of Prof. Gross. One particularly happy expression of the address was where he said that Dr. Gross had "'blazed' more than one new 'trail' in the forests of surgical ignorance." Dr. Sternberg said that, in his belief, no man living or dead was better able to stand before future generations as the nineteenth century representative of American surgery. The statue is made of bronze, rests on a granite pedestal, and on the base below the name bears the following inscription:

> "American physicians have erected this statue to commemorate the great deeds of a man who made such an impress upon American surgery that it has served to dignify American medicine."

The statue stands on a triangle made by three walks, nearly midway between the Army Medical Museum and the National Museum.

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THE PRESIDENTIAL ADDRESS

THE address of Dr. William H. Welch, delivered before the Medical and Surgical Congress, on Wednesday evening, May 5, was probably the ablest philosophic paper among the many able ones read before that body. We believe it is destined to mark a new era in American medical thought, by directing it into the most fruitful field of investigation within which it has ever yet tried its prowess. In the greatest achievements of general biological studies, the thought most pregnant of results up to the present time has been that of adaptation. This thought has inspired more investigators and led to more discoveries than any other. It has again and again proven itself the "open sesame" to the hidden treasures of nature. Those who ignore it may dig and delve as they will but they seldom succeed in making much headway in original research and discovery. The growth of medical science during the present generation has been preparing the way for just such significant utterances as those of Prof. Welch. As a small fragment of a crystal dropped into a supersaturated solution of the same substance directs the speedy crystallization of the whole, so we now hope that Dr. Welch's thought will determine the rearrangement of the thoughts of other representative medical men, until we get some order out of the great confusion that has long existed. The large audience that listened to the delivery of his address evidently appreciated its worth, since at the close there was loud and long-continued applause. In spite of the abstruseness of the subject and in spite of its technical character, it was apparent that the great majority of those present understood its bearings and sympathized with its trend. As first announced, the title of the address was "Compensatory and Protective Processes." It is quite significant that he saw fit to change this title to "Adaptation in Pathological Processes." He preferred to assert himself as favoring the implications involved in the choice of the word "adaptations" rather than adhere to a title, that while practically covering the same theme, yet ignored these implications. When he told his hearers that "adaptation in pathologic processes has the broadest biologic as well as medical interest," he struck the keynote of his whole theme. In the study of pathology as much, if not more than anywhere else we need the inspiring thought of adaptation to clear up our conceptions of some of its processes. Pathology first deals with the breaking up of physiological adaptations, but on the attempt at readjustment which immediately follows, the compensatory and protective processes that occur constitute a new series of adaptations that need scientific attention. In studying "the mechanics of organic development," these should come in for their share of study. To the physician they are of prime importance. In them lies the secret of the future greatness of his profession. The mastery of them will constitute his triumph over what appears to be the perverseness of nature. Dr. Welch tells us that "one of the most interesting characteristics of pathologic adaptations is their foundation in physiologic processes—a fact of fundamental significance." It would be difficult, if not impossible, to conceive of their having any other foundation. The sole other alternative would be in the anti-adaptive forces that led to their necessity. It would surely be a strange place to look for the foundations of adaptation among the forces that work toward the destruction of adaptation. The hereditarily acquired powers of the organism seem to be the only ones that could be drawn upon to overcome the destructive powers of the environment. When the doctor tells us that "variation, natural selection, and heredity have in no direct way influenced pathological adaptations," we are at a loss to know just why he makes such a claim. When he tells us that "an individual born with exclusive capacity for cardiac compensation could not perpetuate such a variation through the survival of the fittest unless heart-lesions became common to the species," we are again in doubt regarding the true intent of his language. Natural selection never provides either function or organ. It merely preserves certain forms by letting them alone. If any change occurs that is either harmless or useful, natural selection permits it to live. If an individual was born with exclusive capacity for cardiac compensation, and this capacity in no way handicapped its possessor, natural selection would simply let it alone and let it multiply itself if it had the power to do so. If a variation has in itself a tendency to permanence, and the selective power of the environment is not against it, then it surely must owe its existence to natural selection. All men seem to possess cardiac compensatory power. This would indicate that there has been a continuous elimination of all not so endowed, until all who failed to possess it have perished, or else that it was acquired as a general power by the cells prior to the time there were hearts. If the first appearance of an organ simulating a heart possessed compensatory power, then natural selection must have preserved it. To heighten this power of compensation for hearts, it would only be necessary for every branch of a race, order or kingdom to suffer from cardiac lesions a multitude of successive times during many generations. This would eliminate, gradually, all not so protected by the natural shortening of life that would occur. Pathological adaptations, or at least the capacity for producing them, can only be preserved by heredity. There is no other conceivable method of preservation. They must have been left uneliminated by selection, otherwise how happen we to possess them in common with our ancestors. They must have come by variation, or else they must have existed perpetually. That the properties possessed by all cells had their rise in some condition of irritability of primitive protoplasm is possible. The differentiations that have given us the complex structures and functions of the higher organisms probably are the results of successive selections lessening certain powers or qualities, and intensifying or increasing others. None of the cell qualities are likely to have arisen *de novo* out of conditions that did not hold them potentially. As every new physiological process had its beginning in some preceding kindred process, even so the pathological compensating processes had their origin in kindred preceding processes. This, however, instead of throwing them out of the sway of variation, natural selection, and heredity, forces them under the same. If physiological processes are subject to these forces, then compensatory pathological processes being merely extensions of physiological processes, must also be subject to them. As the pathological processes are intermittent and not continuous, and as the physiological divisions of labor remove the organic cell units farther and farther away from complex, and nearer and nearer to simple or single adjustments, one would naturally expect the former to become less and less efficacious. This is why the healing power in nature is, as Dr. Welch declares, "most incomplete and imperfect." The higher the tissue the more incomplete it is likely to be found. The simpler the tissue that is injured the more perfect its power of recuperation or of compensation. Slips can be taken from trees and bushes, and these slips will grow into new trees and bushes of the same kind. In some instances leaves, or even small fragments of leaves can grow out into new plants of the same kind. A polyp can be cut into segments, and each segment will produce a new polyp. A worm can be cut in two and each piece develop into a new worm. A lobster can lose a claw and soon grow in its place again a new claw. Highly organized man has no such compensatory or reparative power. All the way up the scale of life such power becomes less and less. As our ability to adapt ourselves to outer nature grows more and more complex, and more and more exact, the power of adaptation of any particular part of our organism to injurious conditions within itself is becoming less and less. The power of outer adaptation grows somehow at the expense of the secret inner power of adaptation. According to this view of the subject, instead of saying with Dr. Welch that "in the light of modern knowledge there is ample scope for the intervention of the physician and surgeon," we are compelled to say that the scope is not only ample, but is growing more and more so.

AMONG THE EDITORS

EXPERIMENTS ON ANIMALS

The Hon. Stephen Coleridge has published in the daily press a letter from himself, as Treasurer of the Victoria Street Society for the Prevention of Vivisection, to H. R. H. the Prince of Wales, asking that the Prince's Hospital Fund may be so distributed that none of it may go to any hospital in whose school any experiments are made on animals. The Victoria Street Society must of course make some move of this kind; nor are we here concerned with the impertinence and vulgarity of the letter, but only with its inaccuracies. Mr. Coleridge actually writes of laboratories, attached to hospitals, where "hapless dumb animals, daily and hourly, are slowly cut up alive without even the pretense of anesthetics." It is past all understanding how an educated man can write such ridiculous nonsense.—*British Medical Journal.*

QUACK ADVERTISEMENTS IN OUR DAILY NEWSPAPERS

While all this discussion is going on concerning what is pure and the proper education of the people, no attention appears to be paid to the shameful, lying and indecent advertisements which are so common in all daily and weekly newspapers, good and bad. The high-minded utterances of the editorial columns are so different and so distinct from the blatant lies in the rented department of the papers that they remind every casual reader of the fact that he who sups with the devil must have a long spoon. While no one will deny that such a practice is openly abetting fraud, there appears to be no effort on the part of even the most respectable periodicals to discourage or check the growing evil. In all the leading newspapers there appear regular bids from the professional abortionist, in bold defiance of all ordinary law or common decency. Many of these quacks have been repeatedly indicted for criminal practices, and their cases have been freely reported in the very papers which publish their standing advertisements. Even religious journals sell their spaces to these humbugs, and under the guise of up-lifting the spirit on the one hand, degrade and destroy the body on the other. The quick relief of discharges by the use of balsams in capsules needs no detailed explanation for the man with gonorrhea, nor is "the decline of manhood" mistaken for overwork, consumption, diarrhea or grippe. The "female pills" appeal to the erring who become the unfortunate victims to preventable accidents, while every reader who has a womb is informed that it can never be kept healthy without the use of a notorious grandmother's tea. The illustrated idiots who are cured by snuffs, inhalations, vegetable compounds, and soaps fill the sold spaces with the most transparent lies, and carry with them the most outrageous insults to common sense and ordinary judgment. It is absurd to suppose that the conductors of these papers do not know better than to give such frauds a hearing, and yet the editorial columns are constantly aiming to educate the people, to protect the real interests of the masses, and to expose wrongdoing in every other line.—*Medical Record.*

THE FIFTY-CENT HOSPITALS AND THE LAY PRESS

We are pleased to see the lay press taking a hand in the warfare against the growth of the cheap medical service epidemic, which, in its virulence, threatens the very foundation of sound medical practice in St. Louis. The *St. Louis Republic* has taken sides with the honorable element in this warfare, and promises to be of considerable service in educating the public as to the real status of such schemes. It is time a stand was being taken by all the newspapers against irregular practice, for the press would command more influence with the great reading public if they would throw out of their advertising columns all quack announcements, blatant, arrogant testimonials, and the pictures of such notables as Sweaney, Dinsbeer and others. To be consistent the lay press has to do this, when they wage warfare upon irregular medical practice. The fifty-cent hospital is the greatest evil, by far, in irregular practice existing in this city to-day, for it is in the hands of physicians, who know better, and who pose as teachers of medical students, and further, men who want to be regarded as progressive physicians. What would a son think of a parent who in his teachings, by precept, would instruct aright, but who in his example was a rank breaker of the very commandments he was teaching? He surely would lose all confidence in his teacher, and so it is with these honorable (?) professors who teach medical students the precepts of honorable practice, and yet in practice are crooked, aiming to nip in the bud the plant upon which the young practitioner must thrive. They rob the young man of his substance, and yet pose before him as his preceptor. No wonder the lay press is after such schemes, as well as the medical press.—*Medical Fortnightly.*

ANTIVIVISECTION LOGIC

In the March number of the little pamphlet issued monthly by the New England Anti-Vivisection Society we grieve to find, among what large headlines call "Hard Nuts for 'Distinguished Physiologists' to Crack," the two following questions:

"Did Dr. Robert Koch's world-advertised nostrum, the erroneously styled anti-consumption 'lymph,' really prove that 'Presto, change!' kind of cure for phthisis, which the vivisecting fraternity, almost to a man, once proclaimed it?

"Did it not rather prove a most lugubrious failure—and do you vivisectors care, very much, to talk about it—now?"

These, of course, are queries of the kind technically described as "oratorical," the interrogator assuming that they can have but one answer, and in reality making assertions, not asking information. The device is ancient, and has legitimate uses, but cautious hearers or readers always feel suspicion when a speaker or writer resorts to it, long experience having shown it to be a favorite trick of people who wish to sustain a theory or conclusion with which the facts in the case are at odds. In this instance, every declaration implied by the questions is false, and it is difficult or impossible to credit the questioner with enough ignorance to make that falsity pardonable. Every one familiar with the researches of Dr. Koch and the results of them knows that his lymph was never advertised by him as a cure for phthisis, and that no authorized proclamation regarding it ever expressed more than the hope that it would ultimately be found to be such a cure. That hope still exists, and is strongest among those best qualified to form an opinion in the matter. And most certainly the lymph has not proved to be a lugubrious failure. On the contrary, it has already proved itself to be of incalculable value to humanity, and its intelligent and rapidly extending employment is fast closing up one wide breach—few are wider—in the walls defending mankind from its deadliest foe. If the Koch lymph never cures a single man or woman of consumption, its discoverer will still deserve and receive the gratitude of his contemporaries and of posterity for supplying an infallible means of eradicating bovine tuberculosis. —*New York Times.*

THE MEDICAL HUSTLER

One of the main outlets of the superfluous energies of the hustler is in so-called charity practice. Men who, a few years ago, scorned the idea of dispensary service, and took time to consider even a hospital appointment, now seem to have been converted to the idea that such connection is necessary to professional success, although the overgrowth of such practice, and the consequent diminution of paid services, has been repeatedly the subject of editorial warnings from all sides. If our profession is reduced to the low level which pessimists prophesy, and has become a mob of students, supported by whatever external means each may possess or obtain, subservient to lay boards of managers, and pushing and struggling for the privilege of rendering gratuitous services, for which the patient is not even grateful, there will be not a few to say that it will serve us right for the hypocrisy which we, as a profession, have practiced, or at least connived at.

We have posed as philanthropists when our "charity" work involved a *quid pro quo;* we have taught persons originally willing and still able to pay moderate fees, to seek gratuitous service, so that we might have greater glory, if less cash; we have begged lay assistance in putting charity practice on the highest professional basis, have represented our motives as lofty, and then have betrayed our lack of candor by scrambling after the chance of acting as the medical tools of lay generosity. Not as individuals, perhaps, but as a profession, we have done this wrong to ourselves, and we are just beginning to feel the logical consequences. The better the hospital or dispensary, the more students does the college want, the more students it gets, the more eager is it for clinical material, and the more lax does its insistence on genuine need of charity become. The more students, the more doctors; the more doctors, the less employment of each; the fewer patients, the more does the physician importune for dispensary service to occupy his time; the greater the crowding after positions at established dispensaries, the greater the tendency toward the endowment of new ones. Thus, these various factors act and react on one another in the most complicated manner, and the physician who has ambitions toward either financial or professional success, is more and more impelled toward that kind of sneak advertising which we call hustling, and which sometimes makes us blush when we compare it with the frank contempt which the quack has for ethics.—*Med. and Surg. Reporter.*

SOME FURTHER CONSIDERATIONS OF HOSPITAL AND DISPENSARY ABUSES

Masquerading in the garb of charity, the aim of most hospitals is to attract large numbers of paying and curable patients. A fair pecuniary return for services and a low death-rate make the sleek philanthropist rub his hands in glee.

The real autocrat of the hospital is the superintendent. However kind-hearted he may be by nature, he is so fettered by rules that, to secure admission, an ability to pay on the part of the patient becomes the prime requisite, real need a secondary consideration. The admitting physician gives to the financial status of the patient no attention, and to his real need, little. He is looking for quickly curable cases that his services may be full and brisk and his death-rate low. Between the two, viz., the automaton of adamantine charity and the man of science, God help the poor man who is almost moribund or a chronic and uninteresting invalid!

In various ways, subjected to no real discrimination, about 75,000 people yearly avail themselves of nearly gratuitous medical and surgical attendance, medicine, surgical dressings, nursing, board, lodging, and washing in the hospitals of New York City.

The prime idea of managers of dispensaries is to report yearly the greatest possible number of patients treated, prescriptions filled, and visits made by their district physicians. Largely dependent for support, as most of them are, upon voluntary contributions, the more show they make of their indiscriminate giving, the more money will they receive. It naturally follows that in less than half our dispensaries only a mere pretense of inquiry is made into the real necessity of the patient. In almost none are adequate measures employed to detect and prevent fraud.

And the clinics? What of them? They are the most flagrant offenders of all! At our nine medical schools there are some two hundred clinical professors, lecturers, and instructors, who must have clinical material at any price, and in any way. It comes from hospital wards, from dispensaries, from their own practice, from their neighbors' practice. If not in town, from out of town. In the sharp competition, a rare case is welcomed though in affluent circumstances; interesting cases are sought out and treated gratuitously, even if well-to-do, while the uninteresting pauper is neglected or referred to a dispensary. Well-to-do patients are sent by country and city doctors to clinics to get skilled advice free, when they can well pay moderate fees. Patients themselves, by their own intuition, come to clinics for the free opinion of the "Professor," and perhaps for free treatment, and generally get both, although in comfortable circumstances.

Patients come from country and city to consult distinguished specialists who, instead of turning them over to younger, less renowned men when they find they cannot pay large fees, relegate them to their clinics where they get advice and treatment gratis.

Thus in hospital, dispensary, and clinic the baneful dance goes on until medical charity has become a disgrace and medical honor a byword. Looking beneath the surface, aside from its medical aspect, this craze for getting something for nothing, allowed by us who lose, encouraged by those who lose nothing, betokens a state of social and moral rottenness truly appalling.—*Medical News*.

THE FOUNDER OF THE RED CROSS

We mentioned last week that the Dowager Empress of Russia has come forward to rescue one of the greatest of practical philanthropists from an old age of dependence, if not of actual want. It is a striking proof of the fact that "the world knows nothing of its greatest men," that in announcing the Empress's kindly act the papers spoke of the recipient of her bounty as "M. Dupont." The very name of the founder of the Red Cross has been forgotten in his lifetime. In fact, so utterly has he passed from the knowledge of his countrymen that a Geneva newspaper recently referred to him as one long since dead. That is the way of the world. It remembers those who do it harm; conquerors and criminals *volitant vivi per ora virom.* As for those who do it good, their name perishes from among men. A short account of the career of the man to whom is due not only the Red Cross organization, but the Convention of Geneva, may therefore be interesting. J. Henri Dunant was born at Geneva on May 8, 1828. He comes of a family that has done the State service for more than two centuries. Quite early in life he devoted himself to philanthropic work among the poor of his native city. Miss Florence Nightingale's work among the sick and wounded in the Crimean war made a deep impression on him, and when, a few years later, he saw the realities of war with his own eyes in the campaign of Napoleon III against the Austrians in Italy, in 1859, he described them in a pamphlet entitled *Un Souvenir de Solferino,* which sent a thrill of horror throughout the civilized world. From that time M. Dunant gave his life to the furtherance of the work which he had undertaken. In 1863 he entered on a pilgrimage at his own expense to the different countries of Europe, seeking audiences with sovereigns, ministers, and other persons of authority and influence, and everywhere striving to stir up men's minds to the importance of the purpose which he had in view. His object was to organize a conference of Governments which should devise some means of mitigating the horrors of war. His persevering efforts triumphed, and in October, 1864, the historic Conference was held at Geneva, the outcome of which was the Convention which has made modern warfare comparatively humane. By 1870 M. Dunant had spent half his fortune on the philanthropic work to which he had given his life, and a few years later he lost the remainder of it. For some time past he has lived in absolute retirement in an institution at Heiden, in the Appenzell Canton, Switzerland. The benefaction of the Dowager Empress of Russia will make him comfortable for the rest of his days; but is it not a reproach to the whole civilized world that such a man should have been allowed to become a pensioner on public charity? He passed by doing good; and because he had not the faculty of self-advertisement which goes to the making of a successful philanthropist in these days, his reward was the poorhouse.—*Brit. Med. Jour.*

THE SPITTING NUISANCE

It does not seem that very much has yet been accomplished by the city board of health's action taken to check the offensive and pernicious practice of spitting upon the floor in public places and conveyances and upon the pavements. We expect, however, to see the board carry its point ultimately, although probably the result will be due to education, persuasion, and the force of example rather than to ordinances.

Twenty-five years ago the great majority of American men, including those of refinement and good breeding, were in the bondage of the tobacco-chewing habit, but that habit has so nearly disappeared, that addiction to it is now looked upon as a prima-facie evidence of vulgarity among educated persons. The legend, "Gentlemen will not spit upon the floor," appearing on signs in hotels, in ferryboats, on railway trains, and elsewhere, susceptible as it was to two interpretations, has had its effect. It is not that a new generation has grown up; those who formerly ejected tobacco-juice from the mouth with scant regard for decency if any, now look upon tobacco-chewers with loathing and wonder how they themselves could ever have come to practice it. These men are just as fond of tobacco as they ever were, but they now appreciate the indecency of their former way of indulging their fondness for it. If this has been accomplished in such a short time—largely, no doubt, as the result of women's labor—may we not hope that the time is near at hand when all forms of offensive and dangerous spitting will appear to people in their true light?—*N. Y. Med. Jour.*

THE RECENT GRADUATE

Theoretically, the recent graduate is, as a rule, ahead; practically, the man of some years' practice is ahead. Experience and knowledge of medicine, in the writer's mind, are not synonymous. Experience indicates that a practitioner is a good judge of human nature, rather than that he possesses a broad knowledge of medicine, and, of course, a knowledge of human nature enables him to play on the foibles, and follies, and weaknesses of his patrons, and hence, hold them as clients, where the unexperienced recent graduate would have no show; yet the latter could give him nine points on medicine and yet beat him to the tenth. The above proposition is demonstrated every day; if not so, why is it that quacks are so successful? Modern methods of teaching are quite different from what they were even ten years ago, and now, not only is the recent graduate well equipped theoretically, but he has had the opportunity of observing as many cases in the clinics of his college course as would occur to him in five years of private practice under the old regime. This enables him to make a correct diagnosis and outline a successful line of treatment, but it is not the kind of experience which assists him in holding his patients. It is in this respect that the older physician can help his younger brother, if he so chooses, although it is a kind of knowledge which is perhaps hard to impart. He can also, without detriment to himself, speak well of the young man, and not say, "He is a bright young fellow and will make a mark in the world *when* he gets *older* and has had *more experience*.

One word of advice to the recent graduate: Don't think that because your old friend, the doctor, can't give the names of the branches of the carotid arteries, or remember the technical names of all the bacteria causing disease, that he can't make a scientific diagnosis. If you do—well, you will have the conceit knocked out of you so hard some day that your recovery will be doubtful in the extreme.—*Southwestern Med. and Surg. Report.*

A NATIONAL LICENSING BOARD

We are disappointed and dissatisfied with the evils that have sprung up under the license granted various examining and licensing boards in the various States. It is just here that we find the error has been committed, and it is just here that we wish to raise our voice in a vigorous protest against the abuse and annoyance that educated and prominent members of the profession are subjected to, whenever they cross over the State line in pursuit of their legitimate professional business. This thing has grown to be a curse, and every day we receive letters from educated men who wish to know something of the laws governing the practice of medicine in Virginia, and who express surprise that the diploma from first-class institutions of learning counts for nothing. The fact is also patent that much discrimination has been indulged in by various State boards against graduates from certain schools located outside of these individual States. The expense and annoyance incurred by men of prominence who are likely to be called into various localities, or who may wish to spend a portion of their time at sundry points, when called upon to undergo these examinations, is all unnecessary and unjust, and plainly unconstitutional.—*The Southern Clinic.*

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Methyl salicylate, applied locally in subacute and chronic rheumatism, is said to give as good results as the salicylates when taken internally.

SELECTED PAPER

SOME NEW PREPARATIONS OF TUBERCULIN

By PROF. R. KOCH,

Director of the Institute for the Study of Infectious Diseases, Berlin

SINCE my first communications on the subject of tuberculin, in 1890, I have never discontinued my studies on the employment of cultures of the tubercle bacillus in the treatment of tuberculosis. I believe that the results at which I have arrived have now reached a degree of precision which justifies their publication.

The facts observed by me during the last few years may appear very simple and even self-evident in certain respects; yet, anyone who has given some attention to the study of tuberculosis is well aware that researches of this kind are very slow and tedious, and require a good deal of perseverance and patience. It is my duty therefore to express my very special thanks to Dr. M. Beck for the zeal with which he has helped me in my work.

In the employment of bacteria and of their products with a therapeutic object in view, or for the prevention of disease, we always deal with a certain kind of immunization. It is necessary therefore, before going further, to state my views on the different questions relating to this subject, so as to avoid all misunderstanding later on.

Immunity against infectious diseases used formerly to be looked upon as a simple phenomenon, incapable of subdivision; gradually however we have progressed to the new conception that immunity may be made up of two or more factors. In order to make myself better understood, I shall give a few examples.

Behring and Kitasato have shown that it is possible to confer on animals immunity against tetanus. They made use for this purpose of the filtered liquid cultures, *i. e.*, of the soluble products of the bacillus of tetanus, one of them being the specific toxin of tetanus. The animals are thus made proof against the action of the tetanic virus, even when injected in large doses, but their immunity only lasts a certain time. This immunization remains without any influence on the tetanic bacteria themselves; they continue to grow in the immunized organism as freely as their anaërobic nature will permit. It is evident therefore that the immunization in the present instance bears solely on the bacterial toxin. After a few weeks this artificial immunization disappears; the bacilli contained in the body of the animal all the while continue to secrete the poison, and, this being no longer neutralized, the animal may yet die of tetanus, without having suffered any fresh infection with the specific germs.

The case is quite different for cholera and typhoid fever, the researches of Pfeiffer having shown in respect of both diseases that animals immunized with fresh cultures on agar are protected against the action of living bacilli, not against that of the toxin, secreted by these bacilli. The living bacteria of cholera and of enteric fever both perish with astonishing rapidity in the body of an immunized animal; on the other hand, it has only been possible to immunize against a certain restricted dose of the toxin itself. This is therefore a case of purely bacterial immunity, *i. e.*, of immunity dealing exclusively with the bodies of the bacteria in question.

Ideal immunization will always consist in protecting the animal or human organism against all the noxious actions which pathogenic germs are capable of exerting on them, not against one only of these actions. Everything that I have said applies equally well to tuberculosis.

It might be thought that, in a general way, there can be no such thing as immunity against tuberculosis, seeing that the disease is apt, in man, to run through quite a considerable number of years without the organism losing to any extent its responsiveness to it. Even in cases in which a cure is effected the patient does not thereby acquire immunity against a new invasion of the tubercle bacillus; rather the reverse, for it is a fact of common observation that he becomes, if anything, less resisting to tubercular reinfection. Granting all this, it remains none the less a fact that tuberculosis itself is susceptible of a kind of immunization under certain well-determined conditions. Such is the case in the galloping phthisis of man, in the experimental tuberculosis of the guinea-pig. In both affections there is a period during which the bacilli abound, whereas soon after they become so very scarce that it takes a good deal of searching before one can detect just a few. This is all the more surprising when we remember that tubercle bacilli are destroyed with extreme slowness after they have been artificially introduced into the organism. The cases we have just mentioned are very probably therefore instances of true immunization and, to be more precise, of purely bacterial immunization. Unfortunately, this disappearance of the bacilli comes on so tardily that it cannot be of any service to the patient. Be this as it may, it is these phenomena which have prevailed upon me to set to work with patience in search of some means of obtaining this same condition of immunity at an earlier period of tuberculosis, at a period, in a word, when it may yet prove beneficial to the patient.

Acute tuberculosis in man and experimental tuberculosis in the guinea-pig are both characterized by the rapid invasion of the organism by an enormous quantity of bacilli, this same fact giving the key to the period of immunity which supervenes in the course of the two affections. The same consideration seems also to supply the reason why there is no appreciable immunization when the infection develops in the ordinary way. In such cases the human organism habitually harbors but a small number of tubercle bacilli, and these multiply very slowly. They are generally surrounded by necrotic tissue and are only absorbed tardily, when already dead and probably very deeply modified by various chemical reactions. In places where the bacilli are present in large quantities, as for example in the pulmonary cavities or the surface of mucous membranes, they simply drop from the surfaces to which they adhered and are not, as a rule, absorbed at all. It is thus possible to understand that, in such slow cases, there cannot exist a period of immunity, this being only possible when a large number of bacilli rapidly spread throughout the whole organism and impress the living tissues; this is the case in the galloping or acute phthisis of man, as also in the experimental tuberculosis of the guinea-pig.

In order to obtain immunity by artificial means, it was necessary therefore to realize conditions as nearly as possible analogous to those we have just indicated; but the difficulties met with in that direction were insurmountable. All attempts made by me or by other experimenters in view of promoting the absorption of living or dead tubercle bacilli, which were introduced in pretty large quantities into the subcutaneous cellular tissue or into the abdominal cavity or the blood, failed. The dead bacilli, when injected under the skin, invariably cause suppuration, and several months later it is still possible to detect in the pus numerous readily colorable bacilli. When injected into the abdominal cavity of the guinea-pig, the bacilli are more easily absorbed and I have in this way been able to obtain manifest immunity. These cases are unhappily always complicated with localized inflammations, leading to adhesions between various abdominal viscera, twisting and occlusion of the intestine, and sundry other accidents which in the end prove fatal to the animals experimented upon. Dead tubercle bacilli introduced into the circulation of rabbits give rise in the lungs to tubercular nodules which, upon analysis, are found to be identical with those produced by living bacilli. The bacilli may for a long time be observed lying unmodified inside these tubercles. Here too, then, there is insufficient absorption of bacilli.

These experiments having shown me that unmodified tubercle bacilli could not be made use of as such for purposes of immunization, I tried to render them absorbable by means of various chemical devices. The only measure which appears to be of some use in this connection is treatment of the bacilli by diluted mineral acids, or by concentrated alkalies, heated to ebullition. The bacilli are thus modified in such a way that they can afterwards be absorbed in large quantities by the subcutaneous tissues. This absorption indeed is slow, but still it is complete. By this process, however, no appreciable immunity is produced, from which we may conclude that the chemical treatment has modified the substance of the bacilli so deeply as to destroy its immunizing properties.

When I had thus ascertained that this line of experiment could not lead to any result, I ceased working with the whole bodies of the bacilli, and tried next to obtain immunization by means of absorbable substances extracted from them.

My first experiments were made with glycerin extracts, glycerin having already proved of good service to me in the discovery of tuberculin. Tuberculin, as is well-known, possesses the important property, when injected into the subcutaneous tissue, of setting up a characteristic reaction in any man or animal tainted with tuberculosis. This property is made use of for the detection of incipient tuberculosis, that is to say, at a period when the ordinary means of physical diagnosis are of no avail, and when also there is most chance of any therapeutic intervention being successful. The diagnostic value of the tuberculin is a point on which I laid special stress in my first communication on the subject; it has been definitely confirmed during the last few years, and tuberculin is now in use in most civilized countries for the early diagnosis of bovine tuberculosis. It has thus afforded a means of successfully combating that very wide-spread affection. Thousands of injections of tuberculin have been made in animals and have shown the lack of foundation for the fear that the reaction, brought on by the injections, might possibly mobilize the tubercle bacilli and scatter them throughout the still healthy portions of the system. This agrees entirely with my own observations, comprising over one thousand cases in which tuberculin was employed for the early diagnosis of tuberculosis in man. Dr. Nietner will soon publish a detailed account of these cases, in not one of which any sign of dissemination of the bacilli could be detected. These arguments ought to be considered sufficient to lead to the abandonment of the curious prejudice, to which I have already referred, concerning the alleged mobilization of the tubercle bacilli; they ought also to encourage practitioners to use tuberculin both in the diagnosis and in the treatment of human tuberculosis, by analogy with what is current practice in bovine tuberculosis. I must again repeat my former statement that prophylaxis is infinitely more efficient and more advantageous than therapeusis in tuberculosis, as well as in other diseases.

Tuberculin is also used as a curative agent in tuberculosis. Every injection of tuberculin produces some manifest improvement in the tubercular process; hence, the natural desire of promoting a repetition of the reactions, so long, at any rate, as they continue to exert a favorable influence on the patient's condition. This cannot, however, be done indefinitely, the organism losing gradually its faculty of reacting to tuberculin, the latter being thus deprived of all action. Thus is produced after a certain time a state of complete immunity against tuberculin, which sometimes lasts several months. This immunization exerts no influence whatever on the bacilli themselves. The immunity is exclusively restricted therefore to the toxins, and does not exist against the bacilli. The power of the organism to react to tuberculin is unfortunately very often lost before a complete cure has been effected; hence, the frequent recurrence of the disease, which may again be treated by injections of tuberculin as soon as the responsiveness of the organism to this substance has been recovered. In this way, provided one has the necessary skill and patience, it is possible to effect a cure, if not in all, at any rate in the great majority of cases of uncomplicated tuberculosis. I should therefore have considered myself justified in recommending tuberculin, even now, as our best treatment of the tubercular infection, had I not in the meantime succeeded in preparing, with cultures of the tubercle bacilli, certain substances endowed with a truly immunizing action against these bacilli.

It will be easily understood that, even after the discovery of tuberculin, my constant aim and desire was to obtain these antibacterial immunizing substances. With that object in view I undertook a large number of experiments, all of which I had to give up afterwards—except one. This one, to which I devoted all my attention for more than a year, is instructive in many ways. It refers to a substance produced by the action on the tubercle bacilli of a 10-per-cent. solution of caustic soda. The bacilli were well stirred in the solution, and the whole kept for three days at the temperature of the room and frequently shaken. The mixture was then filtered through paper and neutralized, giving finally a limpid liquid of a yellowish color. This liquid still contained a few tubercle bacilli, as many as five, or even ten of them, occurring in the field of the microscope under the cover glass. They always remained isolated, not grouped in masses. They were certainly dead, for certain previous experiments had already taught me that tubercle bacilli die within from ten to fifteen hours when put in contact with a 10-per-cent. solution of caustic soda. For the sake of convenience I have called this alkaline extract TA (tuberculin alkaline).

Experiments made with this preparation have shown that, in small doses, it produces exactly the same reactions as tuberculin, except in that the reactions last slightly longer and that the reacting power of the organism is preserved for a longer time with TA than with tuberculin. The main difference, however, between TA and tuberculin is that the results obtained with the former are much more constant than those obtained with tuberculin, that with it relapses are less frequent and more remote when they do occur. It has, however, one drawback which has compelled me to give it up: when large doses were employed, they gave rise, at the seat of injection, to abscesses, which, on examination, were found to be perfectly sterile and could only be due therefore to the presence of dead bacilli. I then filtered TA through a stoneware filter (*Thonzellen*) in order to get rid of all the bacilli. The residue left on the filter was found to contain, in addition to the bacilli, a certain amount of colloid matter, and experiments made with the filtrate showed that this preparation, which did not indeed give rise to any further abscesses, had, in return, lost all its former superiority over ordinary tuberculin. This alkaline extract had the further drawback of not keeping well, so that it was always necessary to have it freshly prepared. Thus, finally I came to give my preference to the glycerin extract of tuberculin, which always remained very stable.

I consider it a very important fact that a certain dose of TA invariably gives rise to the formation of an abscess, for it is thus demonstrated that it is impossible to establish, by means of subcutaneous injections, a state of habituation to, or immunization against, the tubercle bacillus as long as it has not been modified. This preparation was at first injected in such small doses that they could only contain very few bacilli; these doses were entirely absorbed. The dose was then gradually increased until it began to give rise to abscesses, generally after twenty or thirty injections. Had habitation to the tubercle bacillus, when injected in great quantity, been really possible at all, it would certainly have been realized under these circumstances. But this habitation did not take place, a result which can only be attributed to the fact that the subcutaneous tissues can only triumph over a small quantity of dead tubercle bacilli, that they are incapable of struggling victoriously with them when they exceed a certain amount. In order then to be able to incorporate with the organism, by the hypodermic way, any comparatively large quantity of bacilli, it would be necessary to give a large number of injections in many different points of the body. This is impossible in current practice.

These experiments, made with tuberculin A, suggested to me the idea that the bacilli might be mechanically reduced into a broken-up state, which would render their absorption by the tissues more easy than for the entire bacilli. This idea was based on certain observations which I had already made on the chemical properties of the tubercle bacillus.

In the course of former experiments which I performed, in view of obtaining a solution of the tubercle bacilli in mineral acids or in concentrated alkalies, I noticed that these bacilli contained two special chemical bodies belonging to the class of non-saturated fatty acids. One of these acids is soluble in dilute alcohol and easily saponified by caustic soda; the other is only soluble in absolute boiling alcohol or in ether, and it is only with great difficulty transformed into a soap. Both substances take the characteristic staining of the tubercle bacilli themselves, viz., they are colored deep red by carbolized fuchsine, and preserve this color even after treatment by dilute nitric acid and by alcohol. In the course of this manipulation, the first of these fatty acids is dissolved in the alcohol, and is thus removed from the microscopical specimen; the bacilli therefore, after staining, can only contain the one remaining acid, that which is insoluble in cold alcohol. It is this second acid, then, that fixes the coloring matter and serves as a substratum to the characteristic staining of the tubercle bacillus. The second fatty acid can also be slowly extracted from the bodies of the bacilli by means of a warm solution of caustic soda. The process of extraction may be watched going on under the microscope. The fatty acid may be seen emerging from the bacilli in the shape of stainable droplets, which slowly coalesce into larger drops, the bacilli meanwhile, which had at first preserved their normal shape, losing their specific staining property and taking on simply the stains which act equally well on other bacteria also. When the stained bacillus is examined under the microscope, it is seen that the fatty acids are distributed in its anterior in a uniform layer, which protects it against external agencies and renders its absorption very difficult. We must therefore find some way of destroying this protecting envelope, if we want to render the tubercle bacillus more easily absorbable.

My first experiments in that line all ended in failure. Trituration and crushing, with or without addition of hard pulverulent substances, did not at first act on the tubercle bacillus. Then I made use of well-dried cultures which I triturated for a long time, without the addition of anything else, in an agate mortar, with a pestle made of the same material. I could thus at last ascertain a gradual diminution in the number of staining bacilli, and finally I obtained a mass which contained but very few intact bacilli. In order to get rid of these last ones with certainty, I made an emulsion with the residue by trituration with distilled water, and the mixture was subjected to a process of centrifugation for from thirty to forty-five minutes in a powerful machine which made 4,000 revolutions per minute. The emulsion was then found to be divided into two distinct layers: an upper layer, made up of a whitish, opalescent, yet transparent liquid, which did not contain any bacilli at all; a lower layer, consisting of a muddy residue which adhered firmly to the walls of the apparatus. This residue was dried anew, then crushed in the mortar and centrifugated as before, giving again an upper transparent liquid layer and a solid residue. When this same operation had been repeated several times, there was at last almost no residue left, save what was made up of certain foreign bodies which had accidentally got into the liquid, such as cotton fibres, dust, etc. In other words, the entire mass of the culture of tubercle bacilli had been transformed into a series of fluid layers.

This experiment, which is within easy reach of anybody who wishes to repeat it, became the starting point of all my latter studies. I was able to ascertain next, by means of experiments made on animals, and then on human subjects also, that these preparations were all entirely absorbed and never gave rise to the formation of abscesses, provided they had been properly centrifugated and did not contain any stainable tubercle bacilli. Soon, too, I ascertained that the first liquid alone had to be distinguished from the following ones, its action being different from theirs; the liquids resulting from the second and succeeding centrifugations were all alike as to their action. I therefore called *tuberculin O* (shortened into TO) the upper (*obere*) layer obtained after the first centrifugation, and TR (*tuberculin R* or *residual*) the solid residue of the first centrifugation, which serves for the preparation of all the subsequent liquids.

On microscopical examination, it may be seen that the bodies of the tubercle bacilli are far from having been transformed into a homogeneous body. When treated first with carbolized fuchsine, then with methylene blue, the liquid does not, as a rule, show any red masses, and the droplets of fatty acid are also absent. The microscope shows, on the other hand, something like clouds of a pale-violet color surrounded by deep-blue drops which accumulate towards the periphery. After TO has been separated from TR, the blue masses are found to be in TO, while the purple-tinted clouds are in TR. Again, when 50 per cent. of glycerin is added to TO, it has no action whatever on it, but when added to TR it determines the formation of a white flaky precipitate, covered by a layer of a liquid, as transparent as water. Various other interesting chemical researches will be described in a later paper.

This action of glycerin on TR, *i. e.*, on the precipitate formed after the first centrifugation was already an indication that it consisted mainly of the constituent elements of the tubercle bacilli, which, being insoluble in glycerin, do not pass into the glycerin extract, whereas TO contains those very substances which are soluble in glycerin. As a matter of fact, this hypothesis has been fully confirmed by experiments made on animals and on man; these have shown that TO closely resembles ordinary tuberculin, so far as its properties are concerned, and still more TA, although differing from this alkaline extract by the fact that it (TO) never gives rise to abscess formation. This preparation however only possesses very feeble immunizing properties.

TR, on the contrary, is endowed with striking immunizing properties. It also produces a reaction in tubercular subjects, when injected in too strong a dose, but its immunizing action is effected independently of this reaction. Thus, with ordinary tuberculin, with TA or with TO, it is necessary, in order to obtain a curative effect, to excite the reaction; with TR, on the contrary, I endeavor as much as possible to avoid producing a reaction, and I simply try to render the patient insensible to the action of doses, as large as possible, of the preparation by increasing progressively, but rapidly, the quantities injected. In this way I immunize the patient against TR, and also, as I believe I am justified in asserting, against the tubercle bacilli themselves. TR contains, as a matter of fact, all the immunizing elements of the cultures of tubercle bacilli, as proved by the fact that a patient who has been immunized against TR no longer reacts to strong doses of ordinary tuberculin, or of TO, even though one should have succeeded, during the process of immunization, in avoiding almost completely all manifestations of reaction. It is natural to conclude, therefore, that the patient is immunized against all the constituent elements of the tubercle bacillus. Considering the importance of this assertion, I have made a point to verify the reality of this action of TR in a very large number of cases, and there can no longer be any doubt on the subject.

In order to obtain from TR all the effects which it is capable of producing, it is necessary, when preparing it, not to neglect certain essential rules. First of all, I draw attention to the fact that all cultures of tubercle bacilli do not invariably give an efficient TR. The researches which I recently made on this point with Dr. Vagedes, and which I shall communicate later on, show that the tubercle bacilli are far from possessing the uniform virulence which was hitherto attributed to them. The difference in the virulence of even quite fresh cultures is considerable. The virulence of colonies which have long been cultivated in laboratories is generally very attenuated. For the preparation of TR it is essential to make use of highly virulent cultures, those of feeble virulence giving only inactive, or but slightly active, preparations.

Another point of importance is to employ cultures which are as young as possible. They must be dried in a vacuum pan (*Vacuum-Exsiccator*). Any other procedure would modify the substance of the bacilli and render it less soluble and less active. All chemical alterations, though ever so slight, are, in a general way, to be carefully guarded against, the bacilli appearing to be extremely sensitive to them. For the same reason it is necessary to avoid exposing to the action of light the cultures which are intended for use, as also the preparations made from them.

One must also be careful to make use of the cultures immediately after their desiccation is completed, as they are spoilt by keeping. It is scarcely possible to have recourse to manual treatment for larger quantities than 10 ctg. of culture, at the most, and it takes a good deal of skill to deal properly even with this small quantity. It is not possible to separate TO from TR with sufficient precision, unless TO contains about 50 per cent. of solid matter, whilst still remaining perfectly transparent. When such is not the case, a notable amount of TO remains mixed with TR, and the injections produce the reactions which it is our very aim to avoid.

Anyone wishing to prepare TR must know that he will have to pulverize living and highly virulent tubercle bacilli under conditions which render the production of dust inevitable. The danger of these manipulations is, in my opinion, considerable, and I must confess that, whilst I was busy with them, I felt as if I were handling dynamite. I did not make use of the *respirator*, because the protection afforded by this apparatus did not appear to me to be sufficient, as it does not prevent the dissemination of bacillary dust on the clothes and in the room.

I therefore consider that it is impossible by manual manipulation to prepare tuberculin R in any considerable quantity. Immunizing substances of uniform quality can only be prepared wholesale, if it is desired to protect the manufacturer against all risks inherent to their production.

In order to preserve the immunizing liquids, it is necessary to add 2 per cent. of glycerin to them, this being enough, after my own experience, to preserve them from all decomposition, without rendering insoluble the substance derived from the solid residue of the first centrifugation, namely, TR.

The mode of application and the dosing of these preparations are very simple. The injections are practiced, as for ordinary tuberculin, under the skin of the dorsal region, with any easily sterilized syringe. The liquid for injection contains per cubic ctm. 10 mg. of solid matter. It is diluted with the physiological solution of sodium chloride (not with the carbolic-acid solution) until the appropriate dose for each particular case is reached. The first injection is made with a dose of 1-500 mg. of solid matter. This is such a small dose that it is quite exceptional for it to give rise to any reaction at all; should this, however, be the case, the liquid would simply have to be still further diluted. The injections are repeated every other day or so.

The quantity of active principle injected is increased very slowly, so as to avoid, as far as possible, all rise of temperature going beyond 1° C. When an injection has been followed by a rise of temperature, one must wait until this has gone down again to normal, before giving the next injection. I have generally carried the injections up to the dose of 20 mg., and stopped the treatment altogether when there was no longer any reaction with it, or else I only resorted to the injections at longer intervals.

When it is desired to confer immunity on animals, it is well to give at once an easily absorbed dose, from 2 to 3 mg. for guinea-pigs, more still when working with larger animals. It is evident that, with tubercular animals, it will be necessary to start with much smaller doses, 2 mg. in such cases being apt to prove fatal.

With regard to the results obtained with TR, I shall confine myself in this place to a few short indications, it being my intention to return to the subject later on, and to deal more particularly with the treatment of tuberculous subjects.

The one essential point in the immunization of healthy animals, as also in the treatment of diseased animals, consists in the introduction into the organism of the largest possible quantity of the remedy. Of course, the doses must be such as to be easily absorbed, a point which is readily ascertained by watching carefully the infiltration or the puffiness at the place of injection. By observing these precautions I have produced, in a large number of guinea-pigs, such complete immunization that the animals were able afterwards to bear inoculations of virulent cultures, without becoming infected.

The inoculations left no trace in the region where they had been made, and the neighboring inguinal glands were often found perfectly intact several months after the inoculations. In other cases they were slightly tumefied, without, however, showing any tubercular lesions, and, on microscopical examination, no tubercle bacilli could ever be detected in them.

In some of the animals the first inoculation with the tubercle bacilli was made before the immunization had been completed. In these cases there was a local cure at the seat of the inoculation, but the inguinal glands showed caseous degeneration; the internal organs remained free from tuberculosis; the test animals, however, presented generalized tuberculosis of the lungs, the liver and the spleen.

A still lower degree of immunity must have existed in other animals in which the lungs alone were the seat of tubercles, these being very scattered or altogether absent in the liver and the spleen. I have met with this last condition in tubercular guinea-pigs, treated with ordinary tuberculin, at an already advanced period of the infection.

In guinea-pigs which were first infected with tuberculosis and then treated by injections of TR, I have always met with more or less advanced retrogressive changes in the organs which had already been invaded by the tubercular process when the treatment was begun. These alterations were more specially marked in the liver and the spleen. In the liver there were no yellowish necrotic centers; these had been replaced by furrows and depressions which gave to the organ a special knotty appearance.

The spleen also was indurated in different parts, and had in some cases reached such a degree of atrophy that it was difficult to find it at all.

In a general way these experiments have given me the impression that complete immunization is established within from two to three weeks after the injection of large doses of TR. As a consequence of this, guinea-pigs in which, as is well known, tuberculosis runs its course with extreme rapidity, cannot be cured unless the treatment is commenced early, *i. e.*, one or two weeks at most after inoculation.

The same rule applies to human tuberculosis, the treatment of which must not be begun too late. At first it is well to inject doses so small that no appreciable degree of immunity is produced by them; it is only after doses of from 5 dmg. to 1 mg. that undoubted signs of immunization begin to show themselves. These facts further prove that there is a limit to the employment of this new remedy. Thus, a patient who has, to all appearances, only a few months more to live, could not possibly derive any benefit from it. Again, it would be unreasonable to expect any good result from its use in patients suffering from secondary infections, from those in particular in which the streptococcus is the pathogenic agent, and in which the septic process has already relegated the tuberculosis to the second rank. It is evident that tubercular immunization cannot possibly exert any action, any direct action at any rate, on the streptococci and other pathogenic agents which are wont so often to play a fatal part in cases of advanced tuberculosis. Pathological cases of this kind are, as a rule, easily recognizable by their temperature curve, and experience has shown that patients whose temperature goes beyond 38° C., are but exceptionally benefited by the specific treatment of tuberculosis.

The R tuberculin has been employed by me in a rather large number of cases suited for this treatment, and also in patients affected with lupus. In every case there was considerable improvement, more marked than that obtained with ordinary tuberculin or with the TA preparation. I purposely use the expression "improvement," although we would be justified, in certain cases, in speaking of cure, in the current sense of that term; however, I consider that the word "cure" is premature as long as sufficiently long time has not elapsed without a recurrence.

In the cases of lupus I noted this particularly interesting fact, that the cutaneous lesion progressively improved, although the local reaction was extremely slight. So also in the phthisical patients there was no violent reaction and no temporary infiltration in the diseased portions of the lungs, phenomena which are the usual effect of ordinary tuberculin. The only local modification brought on by the use of tuberculin R consisted in a small and ephemeral increase of the crepitant râles. After a few injections the expectoration diminished; rather frequently it disappeared entirely, and just then no bacilli could be found in the sputum. Simultaneously with this the râles disappeared from the diseased region, and the area of dullness on percussion gradually diminished in extent.

In no case did I observe any alarming symptoms or any untoward results which could be attributed to the remedy. Nearly all the patients gained in weight after the very first few injections, and the increase became quite considerable towards the end of the treatment. More particularly striking were the modifications in the thermometric curve in such patients as presented great daily oscillations, going beyond one degree; the apices of the thermometric curve spread out more and more, so as finally to become transformed into a well-nigh straight line situated slightly below the 37° line.

I am unable to assert that the method which I have hitherto followed in the employment of tuberculin R, consisting in the injection at first of extremely small doses, which are afterwards progressively brought up to 20 mg., is the best one. It is possible that other methods, those, for example, which would be based on the combined use of TR and of TO, or on serums derived from TO or from TR, might lead to better and more rapid results. These important questions will have to be settled by means of further experiments. However this may be, I think it is possible to assert that it would be vain to try still more to perfect these preparations themselves, which have been extracted from fresh, living, and highly virulent cultures, and rendered soluble without the help of any chemical agent.

It would be impossible to do more in this line, and these preparations enable us to obtain all the results, generally speaking, which it is possible to derive from cultures of the tubercle bacilli.—*Deutsche medicinische Wochenschrift*, April 1, 1897; *Medical Week*.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

JOSEPH P. WINSTON, M.D., GEORGE E. WEST, M.D.,
W. J. ROBINSON, M.D., L. SCHÖNEY, M.D.

Primary Cancer of the Liver

Alexandre Hennecart, (*Bul. d. l. Soc. Anat. d. Paris*, Series V, T. X, No. 18, July-Oct., 1896, pp. 613-615) reports a case of primary cancer of the liver in a patient who has had no illness in his life except typhoid fever, which he contracted at the age of 15, His parents died of intestinal diseases. The patient did not know the nature of the affection which caused the death of his parents.

The first evidence of his disease manifested itself during a trip on foot from Rodez to Paris. He remarked an increasing sense of oppression, but continued his journey, which lasted three weeks, in the meantime sustaining himself by the use of alcohol. The patient was an inveterate drinker of absinthe and rum.

On reaching the hospital, where he died the next day, it was found, on examination, that he had a valvular murmur connected with the mitral valves, with weak and irregular pulse, and also a tumor in the region of the liver, with pain and a sense of pressure in the abdominal region.

At the autopsy, the lungs were found to be grayish, and, on section, gave the distinct sensation of an emphysematous lung. No abnormal fluid was found in the pericardium. The heart was quite large; the right heart dilated and thickened. Some hardened spots were found next the largest segment of the mitral valve. The liver weighed 5550 gme. The right lobe was particularly hypertrophied; spots were seen on this lobe, varying in size from a cherry to a walnut. On the left lobe a hard, grayish mass was discovered, measuring 23 ctm. in length and 8 in width. Nearly all of the left lobe consisted of a hard, grayish tumor. On scraping the growth, a fluid was secured, giving all the characteristics of cancerous fluid. The rest of the liver was of a normal red brown. The zone of separation between the liver proper and the tumor was very clear. Sections into the quadrate lobe, the lobe of Spiegel, and the right lobe showed hard, nutlike bodies, varying in size from ½ to 3 ctm.; all of them were harder than the rest of the liver and similar to the one in the left lobe. Not one of these growths had softened. The most minute research of the esophagus, stomach, small and large intestine, pancreas, spleen, kidneys, genital organs, peritoneum, and nervous system showed either healthy organs or in no case anything suggesting cancer. The other organs showed nothing peculiar.

On uniting the points of interest derived from the autopsy, we find, on one hand, a myocarditis causing symptoms of cardiac disease, to which, after the forced march on foot, the patient's death was due. Secondly, there was a large primary cancer of the liver, analogous to the case described by M. Gilbert for the first time, in 1881. The tissues not having been sufficiently hardened at the time of writing of this article, the microscopic study of the growth has not yet been made.

Sarcoma of the Heart

MM. Leroux and R. Meslay (*Bul. d. l. Soc. anat. d. Paris*, Series V, T. X, No. 18, Oct., 1896, pp. 680-685) report the following case, which is of a man 61 years old. The patient entered the hospital with double pulmonary congestion, which was extremely intense, with marked dyspnea, fever, and painful palpitation. There was nothing of importance in the past history of the patient until December, 1895. He was then operated upon for a large tumor of the left orbit, which had developed very rapidly and was diagnosed as malignant sarcoma. His quick recovery, after operation, was excellent.

When he entered the hospital, fine râles were found over both lungs, and the heart was not only rapid, but irregular as to rhythm, but with no murmur nor friction sound superadded. During his stay in the hospital, from May to June, 1896, the patient presented alternation of amelioration and aggravation. In the latter case there would be double pulmonary congestion, which was always marked. Eight days before death, coma set in, during which the patient succumbed.

At the autopsy, which was twenty-four hours after death, it was found:

1. That extensive recurrence of the primary growth had occurred. The entire orbit was invaded. A prolongation behind crossed the sphenoidal fissure and involved the entire inferior surface of the frontal lobe; the cerebral matter here was softened with an extravasation of blood between the mass and the brain.
2. Both lungs were much congested near their bases and posterior borders. The left lung included a black infarct as large as a small mandarin.
3. The heart weighed 600 gme. and was

bristling with tumors of variable size and form, covering the whole anterior and posterior surfaces. The left border of the heart was from 3 to 4 ctm. thick. Section showed sarcomatous nodules, some whitish, some lardaceous, and others softening. The right auricle was three-quarters full of multilobular polypoid grape-like masses. The inter-auricular wall presented three small nodules. The inter-ventricular wall contained five or six very minute ones. The tricuspid and mitral valves were healthy. The origin of the aorta was atheromatous.

4. The liver weighed 1500 gme. and contained about a dozen small tumors; it was exceedingly congested.

5. The pancreas was healthy.

6. The right kidney weighed 170 gme., the left one 160 gme. The kidneys presented a few very small growths on their inferior extremities.

7. The spleen contained one nodule.

On microscopic examination, the histological appearance of the primary and secondary sarcomata was identically the same. It was a fibro-sarcoma. In some places the spindle-cell predominated, and in others the round-cell sarcoma.

The case is a beautiful example of generalized sarcoma, having developed in the space of six months. The localization in the heart muscle brought about the cardiac symptoms, whereas the absence of valvular murmurs is explained by the integrity of the orifices. The final coma was the consequence of the cerebral softening, provoked by the intra-cranial extension of the primary neoplasm across the sphenoidal fissure.

Typhoid Abdominalis Treated with Iodine

Dr. L. Kolschorowsky (*St. Petersburger med. Woch.*, Vol. XXII, A 4, 1897) reports splendid results from the treatment of typhoid by means of iodine. It exerts an arresting effect if employed in the prodromic stage. If given a week later, this action cannot be observed; the course of the disease is, however, very favorably influenced. Thus, the pulse becomes slower, harder, and fuller; the tongue, clear, moist, and rose; the stools, inodorous, and normal in color. Mild cases terminate after five or six days; severe ones, after eleven or twelve days. The iodine acts as an efficient disinfectant upon the intestinal canal, and in order to obtain its full effects he administers it in moderate, frequently repeated doses, by mouth and rectum in the form of amylum iodatum, as first suggested by Dr. Ewseenko, and not in solution, for as such it is largely absorbed by the stomach before reaching the intestines.

Drs. Elsner and Brieger have shown that iodide mixtures form a very favorable soil for the growth of the typhoid and coli commune bacilli. We should, therefore, be justified in attributing the beneficial effects of the iodine to its properties as an alterative rather than an antiseptic.

Chronic Pseudo-membranous Enteritis Caused by the Presence of Maggots in the Intestines

The occurrence of insects in the intestinal tract is but rarely observed, and in those cases thus far reported the diagnosis is sometimes a matter of doubt. In most instances the resulting disturbance of the functions of stomach and intestines is a transitory one. In some, the stomach is the chief location of the insects; in others they remain principally in the intestines. Vomiting, dizziness, and diarrhea are the principal symptoms. The larvæ, in nearly every instance, were discovered by accident, and shortly after their entrance into the human system either perished or developed into their mature form, and were vomited or passed away with the bowel discharges.

E. Henschen (*Wiener klin. Rundschau*, No. 33, 1896) reports a case occurring in his private practice, in which the larvæ of flies, accidentally introduced into the intestinal canal, gave rise to a chronic pseudo-membranous enteritis.

The patient was a Swedish peasant, 50 years of age, who, before the summer of 1889, had never been seriously ill. In that year, while bathing in a small stream, he drank rather freely of the somewhat turbid water, which, as he afterward noticed, contained numerous "small red bug-like insects." After about three weeks he began to have pain in the abdomen, and diarrhea, but no vomiting. Until quite recently the diarrhea has alternated with attacks of obstinate constipation. During the diarrheal attacks the movements occurred chiefly in the forenoon, were seven or eight in number daily, usually bright yellow, semi-fluid, and were always accompanied by masses of mucus or membrane, sometimes many feet in length. Usually "animals" were found in the stools, especially when the patient "had rubbed his belly beforehand to loosen the animals." Extreme hunger, pain in the back, and itching over the eyes were also symptoms. In the course of the years that have passed since the beginning of the disease, he has become markedly emaciated and has lost strength. Objective symptoms are otherwise negative.

Of all the medicines that the patient has tried, some capsules containing felix mas, and some pills of kamala, koosu, and felix mas, ordered by Henschen, are the only things which appear to have helped him. These latter, although causing much griping, led to the discharge of so many "animals" that he was free from abdominal symptoms for a considerable time thereafter.

The parasites are cylindrical, segmented, without feet, from 7 to 16 mm. long, from 1 to 2 mm. thick, have a black head, have a considerable power of movement, are lively, and apparently quite powerful. The unfavorable results of treatment are not to be wondered at, since it is found that the larvæ lived for ten seconds in strong alcohol or in $\frac{1}{1000}$ sublimate solution. The entomologist Aurivillius has identified the larvæ as those of a fly closely allied to the common house-fly.

Relief for Vertigo in Hemiplegics

La Sem. méd. (No. 6, p. 22, 1897) quotes Dr. S. Erben, of Vienna, in support of a method of treatment for subjects of hemiplegia who, on attempting to walk, are hindered by attacks of vertigo produced especially at the moment when they wish to rise from their seat. This, of course, is at a variable period subsequent to the apoplectic stroke. This vertigo is lessened and walking is facilitated by having applied to the head, once or twice a day, hot compresses whose use may be continued each time for about an hour. No harm can arise from the use of this treatment.

Typhoid Fever—Serum Diagnosis—Autopsy

MM. Josué and Clerg (*Bul. d. l. Soc. anat. d. Paris*, Series V, T. X, No. 18, July-Oct., 1896, pp. 618-622) demonstrate the practical usefulness of the Widal method of diagnosing typhoid fever, in the case cited below, in which this test was made, and in which the results were confirmed in the autopsy.

The clinical evidence was entirely confusing; in certain particulars pointing to typhoid, and in others pointing almost as strongly to acute tuberculosis, with involvement of the peritoneum. The onset of the disease was sudden, the patient dying on the fourteenth day. There was sudden elevation of temperature to 39.5° C. and 40° C., with a pulse not exceeding 80; constipation; rapid emaciation of patient in the early stage of the disease; extensive vomiting; abundant sweats present, instead of the dry, burning skin of typhoid. There was no initial bronchitis, with sibilant notes, as is often the case in typhoid, and no epistaxis; there were no roseate spots on the abdomen. The general condition and history of patient in some ways pointed to typhoid; in others to acute tuberculosis. The patient gave a history of tuberculosis in his family, with death of one brother from bronchitis; he had had hip-joint disease, and had had bronchitis every winter.

Serum diagnosis was made twice; the first time on the sixth day of the disease, by mixing a drop of the patient's blood directly with six or seven times the same volume of a culture of two days' growth of Eberth's bacillus. The reaction was produced clearly enough, without carrying absolute conviction, because it was compared with cases where the reaction was more intense.

The second attempt was made on the tenth day of the disease; this gave results that were absolutely convincing. Sufficient blood was drawn from the finger by small punctures with the point of a lancet, this being caught in a sterilized vessel. The serum was then separated from the coagulum. To the serum was added five or six times its volume of sterilized bouillon, and upon this surface was placed the Eberth's bacilli. At the end of fifteen hours, lumps formed that were visible to the naked eye. With the aid of the microscope, the immovable bacilli were found to be massed and agglutinated together in a large heap.

Paralysis Following Mumps

L. Revilliod, in the *Rev. méd. de la Suisse Romande*, Dec. 20, 1896, ref. *Brit. Med. Jour.*, reports a case where, directly after an attack of mumps, a boy, aged 7, became paralyzed. Weakness of the legs was first noticed, and this was followed by dysphagia and rapid emaciation. The legs could be slightly moved, but he could not stand. There was left facial paralysis. Both eyes could be shut together, but the left not alone. The tongue could be scarcely protruded as far as the lips, and deviated to the right, but there was no atrophy. The movements of the palate were sluggish. Swallowing was almost impossible, and liquids brought on a paralytic cough, so that feeding with the tube was necessary. Respiration was labored and sighing. All four limbs were equally affected. The sphincters, special senses, general sensation, and the vasomotor system were intact. Faradic excitability of the left facial was diminished. Galvanism caused great pain, but no contraction. The cranial nerves involved were: the sixth on both sides, the left facial, the right hypoglossal, the external division of the spinal accessories to the neck, and the internal (recurrent) branches. Infantile paralysis could be excluded and diphtheritic paralysis was thought probable, but all inquiries negatived this. There had been no case of diphtheria in the commune for five years; the boy's throat had been examined when the mumps began, and no signs of diphtheria were present; his brothers and sisters all had mumps about the same time. Under treatment (hypodermic injections of strychnine, massage, etc.), the boy rapidly improved, and was quite well in about six weeks. It is not surprising that mumps, being an acute specific disease, should be followed by paralysis; nevertheless, only one other case has been reported.

Adherent Pericardium

Dr. Swift, in *Arch. of Ped.*, abstracted in *Annals of Gyn. and Ped.*, gives the following physical signs of adherent pericardium:

1. Marked enlargement, accompanied by various murmurs.
2. Systolic depression at the site of the apex-beat.
3. Systolic retraction of lateral and posterior walls of thorax.
4. Impeded descent of diaphragm in inspiration.
5. Dilatation of veins of neck with sudden emptying in diastole.
6. Absence of feebleness in apex beat.

The symptoms arising from embarrassed circulation are dyspnea, ascites, and vomiting.

Secondary Pott's Disease, with Compression of the Cauda Equina, Following Empyema

At the February meeting of the Orthopedic Section of the New York Academy of Medicine, Dr. Geo. R. Elliott presented a specimen from a man 28 years of age, who had tubercular involvement of both lungs and purulent exudation into the right pleural cavity. Later there were slight lumbar kyphosis, slight motor paralysis of the lower extremities, and pain and knee-jerks varying with the position of the patient. While lying on the right side, pains ceased and knee-jerks returned and disappeared when he was lying on the left side or back. At the autopsy the right pleural cavity was found filled with pus and an extra-dural sinus extended from the tenth dorsal vertebra, where it communicated with the right pleural cavity, to the second lumbar vertebra. The tenth vertebra was carious and the fourth and fifth lumbars were softened, with a small abscess-cavity separated from the cauda equina by an area of pachymeningitis externa caseosa. The central surface of the dura was intact. The extra-dural sinus rested upon this caseous mass and did not mix its contents with those of the extra-pachymeningitic abscess-cavity. There was no microscopic degeneration of the cord. The points of interest in the case are: (1) The entrance of pus from the pleural cavity into the vertebral canal, the usual order being reversed; (2) the secondary dural involvement of the vertebral column; (3) compression symptoms varying with the patient's position. The patient had lung trouble before any signs or symptoms of vertebral caries appeared.

Importance of Laboratory Methods in Diagnosis

Dr. C. E. Simon (*Maryland Medical Journal*, Vol. XXXVI, No. 15) urges the examination of the feces in all obscure cases of gastro-intestinal disease. He quotes Nothnagel as follows:

1. The presence of pure mucus in the absence of fecal material in the dejecta may be regarded as indicating a catarrhal condition of the rectum, sigmoid flexure or the lower portion of the descending colon.
2. A coating of scybalous masses with mucus is usually found in catarrhal conditions of the rectum and the descending colon.
3. A chronic catarrh of the lower segment of the intestine, viz., rectum and descending colon, cannot be excluded, however, by the absence of notable amounts of mucus upon scybalous masses.
4. The presence of hyaline particles of mucus which are visible only with the microscope and which are intimately mixed with the firm or thickly mushy feces, in the absence of mucus visible with the naked eye, indicates a catarrhal condition of the upper portion of the large intestine, or of the small intestine.
5. The presence of small yellow particles of mucus in the feces indicates disease of the small intestine.
6. The occurrence of a typical bile-pigment reaction, when the feces are treated with nitric acid, indicates the existence of increased peristalsis throughout the entire large intestine and the lower portion of the small intestine. From the character of the pigmented constituents of the feces, moreover, it is possible to state whether we are dealing with an increased peristalsis, *per se*, or whether we are dealing with a catarrhal condition of the small intestine.
7. The presence of cylindrical epithelial cells, leucocytes and fat droplets stained with bile-pigment, as also of the yellow particles of mucus already mentioned, indicates catarrh of the small intestine associated with increased peristalsis.
8. The presence of an abnormally large number of muscle-fibers, as also of starch-granules and of fat, is associated with increased peristalsis of the small intestine.

PEDIATRICS

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Asses' Milk and Feeding of Infants

Dr. Richard Klemm (*Jahrbuch f. Kinderheilkunde*, Jan., 1897) recommends asses' milk as an ideal food for sucklings during their first few months of life, or when, in the absence of mother's milk, cow's milk and artificial foods do not agree with them.

According to the author's investigations, asses' milk resembles human milk:

1. In reaction—both being alkaline.
2. In constituency—(*a*) the total quantity of albumin being the same; (*b*) the proportion of albumen to casein being almost the same; (*c*) like human milk, not precipitating in the stomach after coming in contact with its juices.
3. Asses, being as a rule exempt from many affections attacking cows, especially tuberculosis, their milk need not necessarily be boiled, and can therefore be administered raw, in which form it is more easily digested.
4. The quantity of asses' milk required by a suckling in the first three months is the same as that of human milk, thus preventing the evil effects following the consumption of too large quantities of fluids.
5. Like human milk, it contains less antizymotic acids than cow's milk, and consequently prevents and cures intestinal derangement in infants.

The only objection to be raised against the use of asses' milk is its scarcity, and, as a result of this, its expensiveness. This objection is valueless with the rich, and where the question of saving poor lives comes into consideration, these obstacles should be overcome with the aid of the charitable community.

Syphilitic Pseudo-Paralysis, or Parrot's Disease

Dr. Moncorvo, of Rio de Janeiro, in *Pediatrics*, Jan., 1897, says that since 1892 he has observed eleven cases of syphilitic osseous dystrophy, five boys and six girls, their ages ranging from 1½ to 3 months.

This disease manifests itself by a more or less sudden loss of motion in one or two limbs of the upper or lower extremities, "due to a solution of continuity of the bony lever resulting from a separation of the intermediary cartilage following atrophy of the spongy tissue of the end of the diaphysis." There are crepitation and intense pain in the same locality. The muscles of the limb take no part in this affection, being scarcely ever atrophied, and always responding normally to galvanic or faradaic currents. The disease is associated with some other symptoms of congenital syphilis, such as senile facies, coryza, parchment skin in a state of exfoliation, etc. After two or three weeks of active specific treatment it readily abates.

Bearing these symptoms in mind, the differentiation of Parrot's disease from rheumatism, obstetrical paralysis, painful paralysis of Chassaignac, and infantile paralysis, is comparatively easy.

Echinococcus of the Liver in Children, Treated with Bacelli's Method

Dr. J. Bonay, *Ungar. Medic. Presse* (No. 2, 1897), obtained excellent results in the treatment of these cases of echinococcus of the liver with Bacelli's method. Soon after puncturing the cysts at their largest convexity, by means of a trocar, and injecting 20 c.c. of bichloride of mercury, 1:1000, marked improvement was evident. After 1½ to five months, permanent recovery took place without any complications.

Aphtha Cachectica or Riga's Disease (1881)

According to Prof. F. Fede (*Arch. f. Kinderheilkunde*, Vol. XXI, 5 and 6, 1897), this disease is often met with in the lower regions of Italy, especially in the Province Sannio. It manifests itself as an elevated, gray, pearl-like swelling, 2 cm. wide and ½ cm. thick, always underneath the tongue and on its frenulum. Judging from the fact that the tumor appears, as a rule, after—very rarely before—the eruption of the middle incisors, the author is inclined to attribute it to the friction of the teeth against their alveoli during cutting.

He distinguishes three types of the affection:

1. Sub-lingual tumor without complications.
2. Tumor accompanied by general malaise, disturbance of the alimentary canal, cachexia; sometimes, also, tuberculosis.
3. Tumor attended by severe complications, leading finally to death of the child.

The histological structure of the tumor is alike in all three types, presenting a hypertrophy and hyperplasia of the mucous membrane, especially of the papillary layer.

Old tumors assume the structure of a granuloma. No micro-organisms can be found in stained sections and inoculation experiments prove negative also. The treatment consists in excision of the tumor with consequent cauterization. Complications must be met as they arise.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D

Paralysis of the Ulnar Nerve from Cycling.

Destol (*Gazz. degli Osped.*, Nov. 5, 1896), after a long bicycle ride, suffered from paresthesia of the ring and little finger, and loss of sensation to puncture and to touch, as well as paresis of the interossei, lumbricales and adductor muscles. These effects were due to pressure of the nerve-branches between the handles of the bicycle and the pisiform bone. The author believes that the obliquity of the handle-bar was the chief cause. For this reason he suggests a strictly transverse bar, as the pressure then is thrown on the deeper and better-protected parts of the hand.

The Psychical Nerve-Cell in Health and in Disease

Dr. H. J. Berkley, in the *Johns Hopkins Bulletin*, No. 65, reference in *Canada Med. Rec.*, Jan., 1897, publishes a paper on this subject. The psychical cells in the cortex of all mammals are of two varieties, small and large; the primordial process branches like a tree towards the surface, and an extension from the basal portion resembles the roots. The uppermost branches communicate with the numerous nerve-fibres that arise from the medullated masses at the foot of the convolution. The dendritic branches of the neurons have lateral gemmulæ resembling a round-headed pin. The mass of branching nerve-fibres around these end in little bulbs, which come into very close approximation with the globular ending of the gemmules; external impressions pass from the former to the latter, creating thought or motion.

The axon from the basal end also gives off collateral branches, which return toward the cortex and connect the bulbar endings of one cortical psychical neuron with a number of others, and thus the whole cortex becomes intricately united. Dr. Berkley has studied the action of certain poisons on these cells, especially alcohol, ricin, and bacterial toxins which develop in hydrophobia; all lead to loss of function and parenchymatous degeneration. The protoplasmic changes are first observed in the bulbous endings of the dendrites, the gemmules fall off, and then the branches disappear, and finally the corpus and axon of the cell; the axon is the most resistant portion, the nuclear substance and nucleolus also become altered, and the cell can thus no longer communicate with others, nor properly perform its functions, and inco-ordinate motor impulses will result.

These changes explain the dementia and mental obtundities which follow infectious fevers. In chronic insanities, dementia and idiocy, fewness and atrophy of the branches, and gemmules were found by him to be present.

On the Chemical Composition of the Human Brain

Gutnikor, in the *Allg. Zeitsch f. Psych.*, 53, p. 270, gives a thorough chemical study of the brain. He discusses the reaction, the general constituents, the phosphorus in the brain, and the method of its determination, nitrogen, sulphur, etc.

The reaction of the nervous tissues is shown to be acid after death, probably due to lactic acid. What its reaction is during life, the author holds is very difficult to determine, but the probabilities are that it is alkaline, as has been shown for frogs, dogs, cats, and guinea-pigs. One investigator is noted as claiming that the gray matter has an acid reaction, the white, alkaline or neutral.

The author's work upon the general constituents of the brain was carried on upon a large number of brains, fetal, juvenile, adult, and aged; the gray matter being taken from the cortex, the white from the corona radiata and the corpus callosum.

In some of the author's cases of somatic epilepsy the amount of phosphorus was high, and some explanations of the epileptic attack are given on the line of increased chemical activity due to the phosphorous combinations and their facility to break down. Much of this phosphorus is found in the urine after an attack. Death in epilepsy might be due to the inability to get rid of this increased amount, which in turn would be found postmortem. This would account for the high percentage of this element.

Etiology of Epilepsy

Kraniski, in a paper at the Congress in Cracow (Berlin Cor. *Med. Press and Circular*), opposed the opinion of Haig. He looked upon epilepsy as a disease of tissue-change, and not as a nerve-lesion. In epilepsy there were certain deviations from normal tissue-change, in the form of diminished formation and excretion of uric acid. As soon as these abnormalities had reached a certain intensity, a product was formed that acted on the central nervous system as a poison. It irritated the eclamptic center, and an epileptic attack succeeded. He gave drugs supposed to influence the excretion of uric acid, piperazin, lysidine, and lithium carbonate. The first two gave a negative result. The lithia, on the other hand, without increasing the quantity of uric acid excreted, given in doses of 3 gme. per diem, reduced the number of fits. If given to the extent of 6 gme. per diem, it produced symptoms of intoxication, and increased the fits. Epileptic attacks must be looked upon as means of self-defence of the organism against a morbid course of reaction which would otherwise lead unavoidably to destruction of the individual. Blood withdrawn during a free interval had no effect when injected into rabbits, but when withdrawn during the height of an attack, 1 to 3 c.c. injected into a rabbit immediately caused paralysis of the posterior extremities and periodical convulsive attacks, under which the animal generally succumbed in from four to eight days.

Weather Neuroses

Lowenfeld, in the *Münchener med. Woch.*, No. 5, 1896; reference in *Univer. Med. Mag.*, refers to various well-known nervous diseases, whose symptoms, or at least the intensity of whose symptoms, are greatly influenced by the state of the weather. This is true, both of anatomically demonstrable diseases, and of various neuroses. Of the former he mentions the lancinating pains of locomotor ataxia, chronic myelitis, and meningomyelitis, multiple neuritis, and various neuralgias; of the latter, hysteria, epilepsia, and neurasthenia. In addition to these conditions, there are, however, various others—the real "weather neuroses"—whose presence is manifest only during certain states of the weather. At other times the patients usually have no complaints. The symptoms of these "weather neuroses" are usually pain, generally lancinating in character, paresthesias, and muscular weakness. The localization, distribution, intensity, and duration of these are subject to great variation. Complications with other nervous conditions, especially neurasthenia, are quite common.

Hereditary influences are of importance in determining the condition. The development of the disorder may be due to various fever conditions or anomalies of nutrition. The majority of cases of pains in the joints and extremities in old people, usually incorrectly recognized as chronic muscular rheumatism, may more properly be looked upon as "weather neuroses." The existing cause of these symptoms is most probably the sudden change in the amount of moisture in the atmosphere, the condition of the atmospheric electricity, and possibly, also, the quantity of ozone in the air. The seat of the affection is in the peripheral nervous system, including the nerve-roots. The prognosis in young individuals and those of middle age without hereditary predisposition is favorable. In persons hereditarily predisposed, and in the aged, the prognosis as to cure is unfavorable. The treatment should consist of electricity to the back and over the nerve-course, with attention to the general nutrition. In severe attacks in the aged sedative drugs are indicated.

Mechanical Treatment of Locomotor Ataxia

The conclusions formulated by Hirschberg, in regard to the utility of Fraenkel's plan of treatment of locomotor ataxia (*Bull. gén. de Ther.*), are as follows:

1. It is possible greatly to improve the ataxic movement in tabetics by the method of Dr. Fraenkel.
2. The gymnastic exercises explain the reason of augmentation and development of muscular force in the affected members.
3. The exercises in making the muscular contraction under the control of the will of the patient ameliorate the inco-ordination.
4. In bettering the *morale* of the patient by giving him more confidence in his extremities, the persistent ideas of pathophobia which cause so much misery in tabetics are dispersed.
5. The treatment is indicated in all stages of locomotor ataxia. Best results, however, are obtained when it is instituted before locomotion becomes completely impeded.
6. Treatment is contra-indicated when the course of the disease is very rapid; that is to say, when the clinical picture is completely developed in less than two years; also, when the general condition of the patient is particularly bad, and especially when the articulations are affected.
7. The treatment does not exercise any influence on the cardinal symptoms of tabes dorsalis, with the exception of the ataxia.

The method of Fraenkel comprises three categories of movements:

1. Simple muscular contractions; that is to say, of one muscle or a physiological series of muscles.
2. Simple co-ordinate movements; for instance, touching the end of the nose with the index finger.
3. Complex co-ordinative movements, such as writing.

In applying the treatment, the practice is to begin with the simple passive movements, then gradually assume the more complex.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D.

Ritual Circumcision Followed by Gangrene of the Penis with a Fatal Termination

Dr. A. Brothers (*Med. Rec.*) reports the following case:

The little victim was, as is required by the Jewish law, circumcised on the eighth day of his earthly existence, by one of those ignorant religious operators called "Mohels." On the night of the circumcision the child began to bleed profusely and the "Mohel" was sent for. After working on the child for four hours, he succeeded in stopping the hemorrhage—how he stopped it will be seen presently. The child became feverish, vomited, and fell into a condition of collapse. The doctor was called in and found the following condition: The abdomen protruded on account of a distended bladder, which extended half way up to the umbilicus. The penis was almost entirely denuded of skin and presented a gangrenous, black, hard mass, about three-quarters of an inch in length. On examination, the doctor discovered a narrow strip of gauze constricting the gangrenous portion of the penis. After removing the strip of gauze with difficulty, and cutting away a portion of the charcoal-like tissue, the uretha was reached and free discharge of urine took place. The child later developed convulsions, abscesses, vomited blood, and died from exhaustion a month after the circumcision.

Laminectomy for Simple Fractures, with a Report of Three Cases

In a paper read before the New York Surgical Society, Dr. Bern B. Gallaudet (*Annals of Surg.*, Jan., 1897) defines laminectomy as the excision of a portion of the neural arch, or of the entire neural arch, of one or more vertebræ. The author groups the classes in cases for which it is indicated thus: (1) For fractures, both simple and compound, of the laminæ or pedicles, or both; (2) for fractures of the body of the vertebræ; (3) for dislocation of the articular processes; (4) for hemorrhage, both extradural and intradural; (5) for tumors lying within the vertebral canal; (6) for osteomyelitis of the bodies or laminæ, either acute suppurative or tubercular (Pott's disease); (7) for tubercular meningitis and pachymeningitis; and (8) for wounds inflicted either by bullet or knife.

The author's experience with the operation is limited solely to three cases of simple fracture of the laminæ. He reports these cases, two of which were improved and one proved fatal. The high mortality following the operation constitutes the great objection to it.

The diagnosis of simple fractures of the laminæ is easy in the vast majority of cases, and especially so in the lumbar region.

He summarizes as follows:

1. In order to diminish the rate of mortality, all cases of lumbar laminectomy should be kept strictly by themselves in computing the death-rate.

2. All attempts at making too fine a diagnosis and at locating too exactly the point of pressure when both are reasonably clear, as they usually are in cases of fractured laminæ, should be avoided. All delay beyond what is demanded by the general condition of the patient is harmful.

The use of mallet and chisel in raising the fractured bone and the opening of the dura mater, in the author's opinion, increase the shock of operation. Opening the dura, except where there is unmistakably a large intradural hemorrhage, is at best a measure of merely diagnostic value. It cannot help the patient. The hammering necessary to the use of chisels must certainly add to the shock, and when, as has been his experience, the object in view can be attained by comparatively gentle sawing, followed by the use of the rangeur forceps.

Puncture of the Lateral Ventricles

At a meeting of the Medical Society of Heidelberg, says *The Therapeutic Gazette*, from *International Journal of Surgery*, Sept., 1896, Professor von Beck presented three cases of cerebral affection attended with increased cerebral pressure, in which he had successfully employed puncture of the ventricles. His experience warrants the formulation of the following conclusions:

1. In localized lesions of the brain with symptoms of cerebral pressure, it is advisable, if possible, to effect a radical removal of the primary disease; as, in hematomata of the dura resulting from rupture of the middle meningeal artery, by evacuation of the blood, and in cerebral abscesses by extirpation.

2. In facial lesions (cerebral abscess and cerebral tumor) whose site cannot be localized on account of the absence of symptoms, or which are inaccessible to surgical treatment, and go on to the formation of chronic hydrocephalus internus, as well as in diffuse affections of the brain with rapid and marked exudation of cerebro-spinal fluid into the cerebral ventricles, it is necessary to

remove the pathological product which produces the severe disturbances, and thus relieve the compression of the brain.

3. This relief of pressure is secured by evacuation of the accumulated cerebrospinal fluid by puncture of the lateral ventricles.

4. The preliminary trephining should be performed in the region of the suspected site of the primary lesion, and, if possible, by the osteoplastic method, in order to gain an extensive view of the interior of the skull, and to leave behind as small an osseous defect as possible. At the margin of the bone-flap, in the vicinity of the place of cerebral puncture, a small perforation is made, extending through the scalp, for the purpose of facilitating any subsequent punctures of the brain.

5. The ventricular puncture is practiced at a point of the brain superficies as free from vascular supply as possible, and not comprising any cerebral center: in the frontal region, between the second and third frontal convolutions, three centimeters above the supra-orbital margin, two centimeters laterally from the median line, directly backward to a depth of three centimeters; in the parietal region, three centimeters, in front of the central convolution, two and a half centimeters laterally from the median line, outward and backward to a depth of four to five centimeters; in the temporal region, transversely through the temporal lobe, between the first and second temporal convolutions, two and a half centimeters above the base of the mastoid process, to a depth of from three to four centimeters; in the occipital region, four centimeters above the external protuberance, three centimeters laterally from the median line, to a depth of three centimeters in an anterior direction. The aspirator needle should be of the size of a straw, having an attachment seven to eight centimeters long, and connected with a syringe holding from ten to twenty centimeters.

6. Puncture of the ventricles repeated on recurrence of the symptoms of cerebral pressure, is to be preferred to drainage of the ventricles, because the latter is attended with more risk of infection of the brain.

7. Ventricular puncture is far superior to lumbar puncture as recommended by Quincke, since by means of it it is possible to evacuate the chief site of accumulation of the pathologically increased cerebrospinal fluid, and, unlike lumbar puncture, it does not remove fluid from the spinal canal alone in those cases where the communication between the fourth ventricle and the spinal canal is obliterated by tumors in the posterior portion of the cranial cavity or inflammatory lesions. By simply emptying the spinal canal of cerebro-spinal fluid, an arterial fluxion is induced which is transmitted to the brain and, in connection with the existing serous stasis, produces an increased transudation. In the absence of compensatory provisions for an efflux of the cerebrospinal fluid, this fluxion may increase the dropsy of the ventricles and rapidly lead to interference with the vital centers of the brain.

8. By means of ventricular puncture the dangerous pressure effects are at once removed, and, in cases of cerebral tumors, punctures repeated at certain intervals, whenever there is recurrence of the pressure phenomena, may materially ameliorate the distressing subjective disturbances, and prolong life. In cases of inflammatory hydrops of the ventricle, the puncture may even lead to a cure by establishing normal circulatory conditions, and by inducing a retrogression of the inflammatory process.

On the Healing of Wounds in the Negro Races

Plehn, in the *Deut. med. Woch.*, 34, 1896, as the result of his studies, finds that infected wounds are rare among the negro races in Africa, and, moreover, severe wounds seem to heal sooner than do like wounds occurring in Europeans. He also concludes that the specific pus organisms are not common in Kamerun, and that the tissues of the negro are distinctly resistant.

Operations on the Bladder—Chloroform

Professor Guyon (*Ann. Gen.-Ur.*, 1896, p. 165) regards the use of chloroform in operations on the bladder as subject to certain well-established rules. The chief purpose in using it is to antagonize the contractions of that viscus, but not to suppress its contractile power. For lithotrity, only exceptionally does it need deep "surgical" anesthesia; very frequently it needs only "obstetrical chloroformization."

1. First Class (incomplete chloroformization).—This is indicated for non-pathological conditions where there is absence of cystitis and tenderness to pressure. If the patient should be very nervous, the chloroformization should be deepened.

Where stone is the only vesical excitant, a rest of from one to two hours in bed is enough to put such patients in condition for light chloroformization. Here the evening purgative should be given two days ahead.

Cases of cystitis recovered from are included here, the size of the stone not being a contraindication.

This light chloroformization gives quick return to consciousness, allows possibility of light feeding the same day, and there is no vomiting—all important considerations in the aged.

2. Second Class (complete).—This is imperative for patients in whom the pathological sensitiveness of the bladder is quickly elicited by palpation, and in those for whom we foresee long and difficult operations (stone of 3 c. m.—1½ inches, very large prostate, irregular bladder with acute tenderness easily awakened), and the chloroform must be pushed at once to the deep stage.

For other patients we must feel our way and, if preparatory measures cause contractility of the bladder, push the chloroform to the surgical degree.

3. Third Class (chloroform with morphine).—These are cases in which the bladder is sensitive to hypogastric, rectal, or vaginal pressure by touch or distension with liquid. They include also those who have for a long time been sufferers from secondary calculus, or have had secondary infection following primary calculus. Here, in addition to the preparation of the bladder by instillation of nitrate of silver, it will be well to give a hypodermic of 2 ctg. (⅓ grn.) of morphine a short time before commencing the chloroform.

In all cases the surgeon should watch the contractions of the bladder, which permit him to regulate the degree of chloroformization while operating. When he is maneuvering the bladder, under chloroform or not, he must subordinate his work to the tolerance of the bladder; he must never struggle against it. Aspiration tends to provoke the resistance of the bladder, while crushing, done prudently, does not disturb it; the crushing should be completed, as far as possible, before commencing aspiration, employing lithotrity (Guyon), and not litholapaxy (Bigelow).

Administration: When all preparations, such as washing out the bladder, have been made, drop a few drops onto a handkerchief at a little distance from the face, instructing the patient to breathe through the mouth. Gradually bring the handkerchief closer, and finally cover the mouth and nose together, grasping the bones of the nose between the folds of the handkerchief above, and drawing it tense with the other hand beneath the chin to exclude all air. Continue to give the chloroform, drop by drop, turning the handkerchief often, removing it altogether only when the patient becomes agitated.

To obtain the deep chloroformization, substitute grammes for drops, and resolution into complete anesthesia quickly follows. When once attained, it is held by the drop-by-drop method of administration used in the start.

All this time the surgeon must judge by the contractions of the bladder whether or not to increase the dose of chloroform. There is no direct relation between the effects on the bladder muscles and those on the voluntary muscles; in the first period of chloroformization we can even anticipate the bladder movements by the patient's voluntary movements. In difficult and tedious catheterizations, chloroform should be given lightly to soothe the patient and facilitate the operation; also in metallic exploration of the bladder and internal urethrotomy; but in cystotomy, external urethrotomy, and surgery of the kidneys, deep chloroformization must be employed.

Trephining—Subdural Implantation of Rubber Tissues for Epilepsy from Cortical Cicatrix

Dr. R. Abbe, in the *Annals of Surgery*, Jan., 1897, reports the case of a man aged 45 years, presented to the New York Surgical Society. In March, 1894, while standing by a stove, he felt his right hand fall asleep, and then begin to twitch. The convulsion then became general, and he fell unconscious. This was repeated a month later, and then oftener, until two or three, and, finally, seven or eight general epileptic convulsions occurred daily, always beginning in the right hand. He had been taking bromide liberally, under the care of Dr. Graeme Hammond, who referred him to Dr. Abbe for operation on the hand-center.

On March 16, 1895, the dura was exposed over the hand-center by a horseshoe-shaped incision and chiseled groove. The dura was incised by a corresponding but smaller flap, and found to be tightly adherent to the cortex. It was necessary to dissect it off with scalpel to avoid lacerating the convolutions. A thickened and occluded vessel ran across in the dense adhesions binding the dura to the gray matter, and was dissected away with the dura from the latter. The convolution beneath was abnormally dusky, but presented no tumor nor sense of hardness. Beyond this space, which was about an inch in diameter, there were cobweb-like adhesions not more than a quarter of an inch beyond the cut in the dura. A circle of sterilized rubber tissue one inch in diameter was laid upon the brain and the dura sutured over it with fine continuous gut. The osteoplastic flap was replaced with a small drain. Primary union occurred. One year and seven months have passed, and not a convulsion has occurred. The patient is now attending to his work, and is in excellent health.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N. Hoople, M.D.,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Facial Nerve Affected by Ear Diseases

M. S. Tomka, *Rev. hebd. de Laryng.*, etc. (Jan. 30, 1897), gives two anatomical modifications which favor affection of the facial nerve in ear diseases, viz., dehiscence of the Eustachian tube, and the stylo-mastoid artery. The otogenic causes of facial paresis are:

1. Colds, general, or limited to the head or ear;
2. Local affections of the ear, such as
   (*a*) Reflex paralysis due to the outer ear and auditory canal;
   (*b*) Conditions found in the middle-ear diseases: Serous or mucous catarrhs; acute or chronic purulent inflammation of the tympanum; caries of the temporal, which is one of the most frequent causes, especially when it is accompanied by a complete necrosis of the labyrinth and caries of the wall; scarlatinal, diphtheritic, tuberculous, typhic, or syphilitic middle-ear affections, or leucemia;
3. Traumatisms—chemical and thermic;
4. Neoplasms of the auditory canal: polypi, sarcomata, etc.;
5. Tumors of the base of the brain. Hyperostoses penetrating into the internal canal and involving the facial nerve. The progress is more favorable in acute than in chronic cases. The persistence of normal electrical reaction of the nerve is of favorable prognosis.

A Case of Acute Loss of Vision from Disease of the Ethmoid and Sphenoid Cavities

Hansell (*Med. and Surg. Rep.*, July 25, 1896) reports the case of a male aged 17, whose vision suddenly, after a mild attack of measles, from exposure by sleeping on the floor, grew worse, and his mental powers were dulled, but the headache was less. The lids and conjunctiva were normal; the cornea and anterior chamber clear; the pupil moderately dilated, but irresponsive to light; vitreous cloudy; retina edematous; and near the periphery, marked linear detachments. Vision was equal to perception of light. Examination of the nose revealed acute purulent inflammation of the anterior and posterior ethmoid cells on both sides, and of the left sphenoidal sinus. The ethmoiditis improved gradually, but the vision did not recover, although the fields have gradually enlarged and now include the unbroken periphery, in which light-projection has returned, and fingers can be counted on the temporal sides; but a large central scotoma, in which light cannot be seen, persists. Notwithstanding the efficient nasal treatment, improvement of vision has been disproportionately slight. The arteries have grown smaller, and the optic discs have become paler.

Experiences in the Treatment of Chronic Trachoma, and the Consequences

Eversbusch, in *Zehender's klin. Monatsbl.*, XXXIV, p. 1, reference in *Arch. of Oph.*, has given up all operative treatment in trachoma, except canthoplasty, when there is shortening of the palpebral fissure, or entropium. He drops a 5-per-cent. solution of nitrate of silver on the granulated surface, avoiding the rest of the conjunctiva, and repeats this every five to eight days. Later, the conjunctiva is massaged with yellow oxide of mercury salve. The duration of treatment averages from one to two months. In cases of pannus of an obstinate nature, he touches the conjunctiva, two or three millimeters from the corneal margin, with tincture of iodine.

Irregular Astigmatism, Due to the Use of the Microscope

Ellis (*Archiv. of Ophth.*, Vol. XXV, No. 3) reports a case of irregular astigmatism in one eye, produced by prolonged microscopical work, and says, the practical deduction to be drawn from this and the other cases reported is that, in prolonged microscopical work, the eye which is not used, especially if it be kept closed, is more likely to suffer than the one employed in observation.

It would seem that there is a real danger in the exclusive use of one eye, for a long time, under such circumstances. It is better to keep both eyes open; when there is inability to do this, a screen before the unused eye should be employed.

The irregular astigmatism due to the closure of the unused eye in microscopical work is probably due to the pressure of the eyelids, as carefully reported by Dr. George J. Bull, of Paris (France). It is easy to prove that the confused vision of an eye that has been kept forcibly closed during microscopic work is due to vertical diplopia.

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Ipecac, from which the emetic has been removed, is highly recommended in doses of from 1 to 1.5 gms. every six or eight hours as an anti-dysenteric.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D., HOMER E. FRASER, M.D.

The Local Treatment of the Regional Forms of Eczema

Dr. Louis A Duhring (*Am. Jour. of the Med. Sciences*) urges the necessity of the practitioner of medicine having a thorough knowledge of general and local pathology, and especially should he be able to recognize the pathological changes taking place in the skin. The doctor has taken up the regional eczemas in a systematic manner, beginning with the scalp, and as the subject is sufficiently important, we shall quote from some of the principal divisions:

Eczema of the scalp in adults is frequently of the erythemato-squamous type. In children it is more apt to be pustular and crusted. Eczema in this region is often confounded with psoriasis, seborrhea, and, in children, with ringworm. If there be scales or crusts (as is usually the case), bland oil should be used to soften them, followed by a thorough and careful application of soap and water. When the case is acute, mild and soothing ointments should be used; for instance, a weak carbolic-acid lotion, together with a saturated solution of boric acid, and 10 minims of glycerin to the ounce, will often prove useful. Frequently medicated soaps are sufficient to produce a cure. In the more chronic form of scalp eczema tarry ointments will be indicated, beginning with weak ones first and strengthening as necessary.

The next region taken up is the face; the two varieties most frequently observed are the erythemato-vesicular and the erythematous. The value of camphor is prominently brought out in this connection. The following formula is recommended when there is hyperesthesia and itching:

Camphor	½ dr.
Emplast Plumbi	3 dr.
Petrolati	3 dr.
Ol. Olive	1 dr.

Dr. Duhring carefully points out the necessity of remembering the fact that glycosuria is often the cause of eczema and pruritus in the genital region, and consequently recommends the careful examination of the urine. As eczema is frequently the manifestation of a neurotic state, strict attention should be given to diet, hygiene, and internal medication. The external remedies are generally of the stimulating variety, for the scrotum and labia will stand a great amount of harsh treatment. Among the drugs employed, the tars are highly recommended, strong solutions of carbolic acid, nitrate of silver, etc. The stronger applications are frequently followed by mild and emollient ointments and pastes.

In the treatment of eczema of the leg, much stress is put upon the use of plasters. Various formulæ are given, all of which are useful under special conditions. The following is a plaster base, which is a modification of Peck's original formula:

Liquefied Soap Plaster (U.S.P.)	90 parts
Olive Oil	10 parts

This makes a light, adhesive plaster, to which can be added salicylic acid, tar, ichthyol, etc.

Bullous Dermatitis from Quinine

J. C. Johnston (*Jour. of Cut. and Gen.-Ur. Dis.; The Jour. of the Med. Sci.*) records the case of a man, aged 37 years, who had before experienced two attacks of quinine dermatitis from taking two 2-grn. quinine pills. Two 15-drop doses of compound tincture of cinchona caused the present outbreak. Two days after the ingestion there was intolerable itching, and soon vesiculation on the genitalia, face, and ears, and the whole general surface of the body rapidly became the seat of a scarlatinoid dermatitis. As this began to decline, the palms and soles became affected with blebs, some of which were large in the first outbreak, as much as 8 oz. of serum being evacuated. The blebs recurred, and it was five or six weeks before recovery was complete, the palms being the last to recover. The chief points of interest are the variety of the bullous manifestations from quinine, and the great disproportion between the violence of the cutaneous outbreak and the small amount of the drug ingested.

The X-rays in the Detection of Renal and Vesical Calculi

A. P. Laurie and John T. Leon, of London, in the *Lancet*, Jan. 16, 1897, report a series of experiments in museum specimens with a view to determining how far different calculi were opaque to the X-rays, and comparing their opacity with flesh and bone. The result showed conclusively that calculi composed of oxalate and phosphate of lime were more opaque than bone, uric-acid calculi of almost the same opacity, and gallstones slightly more opaque than flesh. Mr. Henry Morris confirms these results, which seem to show that there should be no difficulty in photographing stones in the bladder or kidney. After some inconclusive experiments on living subjects, they inserted a uric-acid calculus of about five-eighths inch in diameter into the kidney of the cadaver of a man about 50 years of age. This was done with as little disturbance to surrounding parts as possible. To photograph the stone he used a "focus" tube and an induction-coil giving a 6-inch spark, with four storage-cells connected to the primary circuit. and took the photograph on a "Lightning Cadett" plate. After an exposure of thirteen minutes, with the body lying on its back, the plate was removed. On development it showed a faint, but distinct, image of the stone, though the spine was only very faintly indicated.

The next experiment on a living subject gave a negative result which was subsequently confirmed by operation.

The next case was that of a boy aged 8 years, who had symptoms of vesical calculus. On this occasion the same induction-coil and the same number of cells and an *xxxx* Fayet plate were used, the exposure to the rays being seven minutes. The untouched negative showed the calculus was a little over an inch in diameter. A few days later lithotrity was performed, a No. 9 lithotrite being used, and the detritus weighing 98 grns. It was composed principally of uric acid and was oval in shape.

Another case was that of a boy aged about 15 years, in whom a skiagraph showed the presence of a calculus in his bladder quite distinctly.

Treatment of Warty Growths on Genitals

William S. Gottheil, in a paper on epithelioma of penis, read before the Society for Medical Progress, Nov. 14, 1896 (reference in the *Int. Jour. of Surg.*, Jan. 1, 1897), concludes as follows:

1. Warty growths of the genitals, more especially in the male, are always to be suspected of malignancy, no matter how innocent they may seem.
2. They should be left entirely alone or be thoroughly removed by knife or cautery.
3. Imperfect attempts at destruction, as with nitrate of silver, carbolic acid, etc., are especially to be avoided, there being many cases recorded in which they have stimulated a benign growth into malignant action.

Erythema Scarlatiniforme

Dr. Louis J. Frank, in the *Jour. Cut. and Gen. Ur. Dis.*, March, 1897, reports a case of this disease. The patient had two attacks. The first occurred after a supposed contact with Rhus toxicodendron. The onset was sudden; temperature ran a high course. The cutaneous eruption appeared on the fourth day. It consisted of small and diffuse erythematous spots and vesicles, which rapidly extended over the body. The flexor surfaces were the site of excoriations, attended with free serous discharges. Itching was severe until desquamation, which began first, as the rash, on the hands and face. The epidermis peeled off in thin, dry scales. In the hairy portion of the body the desquamation resembled pityriasis. Desquamation lasted about three weeks. One year after the first attack the patient was again affected with a similar symptom following tonsillitis. Erythema scarlatiniforme is differentiated from scarlet fever by its being apt to relapse, its non-contagiousness, and absence of albuminuria.

(The case of Dr. Frank bears, in some respects, a close resemblance to the endemic dermatitis exfoliations described by Dr. Thos. Savill, of London.—Ed.)

Elephantiasis of the Lower Extremity Cured by Ligation of the External Iliac Artery

Dr. George B. Fowler, in the *Brooklyn Med. Jour.*, Feb., 1897, reports the carrying out of the suggestion of Hueter, of ligating the external iliac artery for elephantiasis. The patient was a boy aged 16. Seven years before coming under Dr. Fowler's observation, he had suffered from double inguinal adenitis. After convalescence, he noted the right leg was swollen. The skin over the whole right leg presented the typical appearance of elephantiasis. The circumference of the abnormal leg was from 2 to 5½ inches larger than the normal one. Two years and nine months after operation the hip measured the same.

The operation consisted of opening the abdomen by a 3-inch incision in the semilunar line, holding back the intestines, locating the iliac, incising the posterior reflection of the peritoneum, and ligating the vein.

It would seem that as good results could be obtained from the less formidable procedure of Carnochan, who advises tying the femoral just below Poupart's ligament.

Erythema Multiforme Following Circumcision.

Dr. R. W. Knox, in the *Jour. Cut. and Gen.-Ur. Dis.*, March, 1897, reports a case of the above. On the second day after operation a faint pinkish rash appeared over the greater portion of the body, attended with itching, burning, and some fever. Three days later various-sized brownish-red spots appeared on the buttocks, which later changed into vesicles and bullæ. The child had been the subject of various neurotic skin eruptions, such as urticaria, etc.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

Menorrhalgia and Its Rational Treatment

Massey (*Am. Gyn. and Obst. Jour.*, 1896, No. 2) regards menorrhalgia as merely the expression in pain of an attempted functionation of a lame set of organs, the pain often taking the form of a menorrhspasm, the causes of which may be in the nervous system exclusively—the neuropathic diathesis—though it is usual to find some chronic inflammatory condition of the uterus or ovaries as the exciting agency.

The rational treatment calls for a correction not only of the faulty condition of the nervous system, but also of the condition of endometritis which is found to exist in nine-tenths of the cases. For the latter, electricity, the negative pole within the uterus, is advocated, the currents varying from 15 to 40 milliamperes, the applications being made twice a week for over two months.

Vagino-fixation of the Uterus

Dr. J. J. Macan, in the *Brit. Gyn. Jour.*, in a communication relating to the above method of fixation of the uterus for retro-deviations, refers especially to the complications frequently associated with pregnancy following upon the foregoing. These are abnormal anatomical conditions, which not only cause obstructed labor, but interfere with its obstetric treatment.

Two cases of complicated labor referred to by Strassmann, of Berlin, are cited, one of which ended in death, in childbed. The latter also concludes that version, even if possible, is likely to cause deep lacerations, and very often the child must be mutilated, or Porro's operation performed.

Graefe performed Cesarian section, successfully, upon a patient who had conceived five months following upon vaginal fixations by Mackenrodt; pregnancy continued beyond term; cross-birth; portio abnormally elevated, eclampsia interpartum. To have attempted version in this case would have been difficult, if not impossible.

Rühl believed that such difficulties as protracted labor occurring after vagino-fixation could be remedied by early version, until he met with two cases in which he was taught a different opinion. In one case, labor had continued over forty-eight hours; the pains were very strong; the os uteri could not be felt; the membranes had ruptured, and the child was dead. Not being able to perform version, even under deep anesthesia, the os uteri lying to the right above the linea innominata, he was obliged to do a craniotomy, and that with difficulty. In the second case, because of premature rupture of the membranes and prolapse of the cord, reposition and turning were also impossible. An incision of 8 ctm. was made forward from the os, the child extracted with forceps, the incision being sutured subsequent to the delivery of the placenta. Vesical troubles complicated both these cases.

Apart from the danger of obstructed labor, abortion is very common; it occurred in 25 per cent. of Dührssen's pregnancy cases, and 27.2 per cent. of those in the Berlin Policlinic.

Leopold insists that the position of the uterus is more pathological after vagino-fixation than after ventro-fixation, and says that the too frequent employment of the former is on all sides condemned.

Sanger limits the operation strictly to the cases in which treatment by pessaries, so successful in skilled hands, is inadequate. His statement of the indications for operation is the one generally accepted.

In addition to vesical troubles, Dührssen has reported angular distortion of the ureters, to which both Strassmann and Graefe have referred the origin of eclampsia interpartum.

Suspensio Uteri with Reference to Its Influence Upon Pregnancy and Labor

Dr. Charles P. Noble, of Philadelphia, in the *Amer. Jour. Obst.*, No. 2, 1896, p. 161, has secured reports from many of the prominent operators, and also culled the medical journals for cases of pregnancy following suspensio uteri. These reports are shown in tables.

Eight hundred and eight cases were collected from American operators, in which at least one ovary remained. Of these there were fifty-six pregnancies, or $6\frac{9}{10}$ per cent. Seven women are as yet undelivered. There have been six abortions, or $10\frac{7}{10}$ per cent. Forty-three have been delivered at term. There have been three deaths; two of these were septic before the labor, and one died of heart-disease. In only one of these was the death attributable to the operation, which makes a mortality in labor of about 2 per cent. The influence of the operation upon fertility is merely indicated by the fact that of 808 women operated upon, there have been only fifty-six pregnancies. Six abortions have occurred in the fifty-six pregnancies, 10$\frac{7}{10}$ per cent.; but as two occurred in the same woman, a third after dancing, and a fourth was criminal, the inference is that the operation has no tendency to produce abortion.

The author gathers the following from the study of the statistics: (1) That women subjected to the operation are less apt than others to become pregnant; (2) that pregnancy and labor, as a rule, are uncomplicated; (3) that inertia uteri is not infrequently met with; (4) that serious or insuperable obstruction to labor may be produced if the fundus and anterior wall of the uterus are imprisoned below the point of attachment between the uterus and the abdominal wall. This last is the real obstetrical danger to be feared as a result of suspensio uteri.

After a careful study of the different methods of performing this operation, the author concluded that, in order best to prevent occurrence of the above obstetrical danger, he would employ the following technique: The lower angle of the incision stops at least an inch and a half above the pubes. Kelly's method of suture is adopted, except that the sutures are passed through the anterior instead of the posterior face of the fundus uteri. The peritoneum is closed with a running suture. The aponeurosis and muscle are closed with an interrupted suture, not including the peritoneum.

The author suggests that all women who become pregnant after having had this operation performed, should be examined during the seventh and eighth months of pregnancy, to ascertain whether or not the anterior wall of the uterus constitutes a tumor at the brim of the pelvis or if the cervix is being dragged up out of the pelvis. In either of these conditions, labor should be induced at least four weeks before term.

The Advantage of Incision and Drainage in Some Cases of Pyelitis

Dr. Richard C. Norris, in the *Amer. Gyn. Jour.*, presents the history of a case of pyelitis, the patient suffering from frequent micturition and constant pain in the lumbar region for a period of four years following the birth of her last child. During her pregnancy she had frequent attacks of nephritic colic, which increased in frequency and severity subsequent to delivery. Careful examination detected the right ureter enlarged and tender, and readily palpated from its vesical orifice along the base of the bladder and upward as far as the finger could reach. There was a distinct tumor in the region of the right kidney. The urine contained pus, some albumen, but no casts. Attempts were made to catheterize the ureter with the hope of draining the abscess in the pelvis of the kidney, and to institute treatment of this cavity by means of repeated aspirations of the accumulated pus; each attempt, however, aggravated the bladder inflammation. Lumbar incision was therefore performed, the abscess drained, and numerous cheesy masses and disintegrated blood-clots, doubtless the cause of the nephritic colic, removed. There was no stone in the kidney, its structure being apparently normal. A drainage-tube was placed in the abscess cavity, any attempt to remove which, when the discharge of pus had practically disappeared, caused intense pain, requiring the reintroduction of the tube to afford relief. A ureteral bougie was then passed through the opening in the loin through the ureter into the bladder, remaining there three days, being passed thereafter every third day, the ureter being cleansed by daily injections of boric-acid solution. Several weeks subsequently, the pelvic portion of the right ureter appeared to be normal, the drainage-tube being finally removed. There has since been no recurrence of pain, nor of symptoms pointing to cystitis or ureteritis.

The interest in this case centres in the great advantage of the lumbar incision, in some cases, over catheterization of the ureters.

A Method of Treating Placenta Previa Centralis

Dr. Nyhoff, in *Monat. f. Geburt. u. Gyn.*, B. IV, H. 5, S. 405, describes his method of treating placenta previa centralis. He passes a finger through the cervix as soon as it begins to dilate, and makes an opening through the placenta, leaving the amnion intact. The bag of water will be forced through this opening, tearing the placenta more and more as the cervix dilates, and preventing hemorrhage, partly by pressure and partly by not breaking up the attachment of the placenta to the lower uterine segment.

The advantages of this method are that it does not interfere with the normal course of labor, it may be used in combination with an antiseptic vaginal tampon, and no anesthetic is necessary. The child may be delivered slowly, thus avoiding secondary hemorrhage, and injuries to the soft parts of the mother.

This method is contraindicated when the placenta covers only part of the cervix (placenta previa lateralis) and when the pains are weak.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Mixed Infection by Pulmonary Tuberculosis in the Aged

A. M. Luzzatto (*Cent. f. Bact. u. Par.*, XXI, 2, 1897, p. 58) investigated some fifteen cases in patients over 50 years of age, and comes to the following general conclusions:

1. Tuberculosis senilis, like tuberculosis in general, has as its main etiological factor the Bacillus tuberculosis, and also as secondary factors streptococcus infection. Mixed infections are, however, rarer in the aged, as one can demonstrate them in about one-half of the cases only.

2. The micro-organisms which were found, showed in general a reduced vitality and virulence. This would account for the chronic and mild course that many of these cases show.

Bacteria Utilized

According to the *Brit. Med. Jour.*, a new system of sewage treatment has recently had an extensive trial at Exeter. Under the new method, not only is no attempt made to sterilize the sewage, but every effort is made to encourage the growth of micro-organisms. Briefly described, the process is as follows:

The sewage is run into a large tank, from which light and air are excluded. In this, the septic tank, the anaërobic organisms flourish, much gas is evolved, and a fine mineral sediment is precipitated. From the septic tank the sewage passes to the aërating troughs, where under the influence of light and air the aërobic bacilli do their work. The effluent from these troughs, after passing through coke filters, escapes in a highly purified condition, the dissolved and suspended impurities having been oxidized and rendered innocuous, exclusively through the agency of bacterial growth. A system very closely resembling the above has recently been undergoing an experimental trial at Sutton, under the direction of the London County Council. Mr. Dibdin having ascertained by passing sterilized air through sewage that the amount of oxidation so obtained was infinitesimal, concluded that practically the whole work of oxidation and nitrification depended on the presence of micro-organisms. He succeeded in isolating an extremely active variety of Micrococcus candicans from coke-breeze filters, and conceived the idea of utilizing this in the purification of sewage. A 4-foot bed of burned ballast is prepared, and material containing the micrococcus is added. The sewage is then pumped onto the bed, where it remains for two hours, exposed to the influence of the organism. When drawn off at the end of this period, the effluent is of sufficient purity, but as a further precaution it is recommended to filter it through land. Each bed is worked twice daily, long intervals being required to insure efficient aëration.

Serum Diagnosis in Relation to Typhoid Fever

Drs. Wyatt Johnston and D. D. MacTaggart (*Montreal Med. Jour.*, March, 1897), report some details concerning technique which they find necessary in order to insure successful results in serum diagnosis by the dried-blood method, with which the authors have now treated over 500 samples of blood.

The results obtained were as follows:

1. Out of 129 cases, which there were good reasons to regard as true typhoid, exclusive of a few cases where the first samples were taken at a very early stage and no re-examinations could be obtained, and also a few cases first examined late in convalescence, the authors have met but one apparently genuine case of severe typhoid, which, when re-examined under satisfactory conditions, did not give a decisive reaction by the dry-blood method, and this one also gave no reaction by the serum method. Occasionally the first appearance of the reaction is delayed beyond the end of the first week.

2. The authors have never met a well-marked reaction under conditions where there were not strong reasons for believing it to be due to typhoid.

3. In a few cases where the result of the blood-examination remained in doubt the mild type of the fever made an accurate clinical diagnosis impossible. In such cases, the authors believe bacteriological examination to be the most exact method of procedure.

4. The authors have not yet met a case of typhoid where a decisive reaction was obtainable by the serum method and not by the dried-blood method.

5. The authors found that pseudo-reactions may be avoided by attention to the character of culture-media. By using an attenuated or quiescent stock-culture grown at room-temperature, and transplanted at intervals of about one month, a suitable degree of sensitiveness was obtained. From such stock-cultures a 24-hour bouillon at

37° C., with a moderately diluted blood-solution, or serum, would give prompt and decisive reaction within a few minutes in the case of typhoid patients, while concentrated solutions of non-typhoid blood, or serum, were found to give no reaction, even at the end of twenty-four or forty-eight hours; hence, estimation of the amount of dilution is not necessary for ordinary diagnostic work.

The writers have stated elsewhere that highly active cultures, if left for a few hours longer than usual between the times of transplantation, rapidly undergo involution changes, and while in this condition are far more liable to show agglutination than was the case with the same culture tested a few hours earlier. Bouillon-cultures which have stood long without transplanting, show a tendency to spontaneous partial clumping, which is quite absent during the first twenty-four hours. For this reason they prefer to use 24-hour bouillons, which are free from sediment, for the test. The peculiar disintegration obtained by Pfeiffer in typhoid cultures placed directly in the peritoneum of a specially immunized animal, do not tend to occur where the serum is tested in nitro by the hanging-drop method. With blood-solutions, however, this peculiar phenomena is frequently witnessed. The change is more liable to occur in cultures some days old than in young cultures, and more, perhaps, with attenuated than virulent cultures. It does not occur with all samples of typhoid blood, and is not well marked in very dilute blood solutions.

Quantitative estimation of the degree of dilution in the case of blood-solutions is possible by hemometry as well as by making direct measurements. With samples of freshly dried blood, sufficiently accurate observations can be made to express the degree of dilution in multiples of 10—($\frac{1}{10}$, $\frac{1}{20}$, $\frac{1}{50}$, etc.). The exact estimation of the dilution, while interesting for scientific purposes, is not necessary for the practical purposes of the test if attenuated cultures are used, and the establishment of fixed arbitrary time limits, as recommended by Grünbaum, seems only of use in avoiding pseudo-results, due to the use of highly virulent cultures.

Owing to the greater sensitiveness of blood-solutions as compared with typhoid serum, there is a greater tendency to pseudo-reactions if active virulent cultures are used, than is the case in working with serum. Cultures which exhibit darting movements in hanging drops are too sensitive for the dry-blood test. Those cultures having a quiet, but rapid gliding motion in hanging drops have given uniformly good results. If the movements of the cultures become sluggish, one or two daily transplantations at body temperature will make them more active and sensitive.

Clean preparations containing very little fibrin can readily be obtained if care is taken not to stir up the film of blood-clot, and to use plenty of water for dissolving. The routine method of testing employed by the writers is to place a large drop of water from a capillary pipette on the film of dried blood and let it stand for a minute or two. A loopfull of the solution so obtained is taken *from the top of the drop* and mixed with a loopfull of the bouillon-culture, or may, if desired, be diluted further.

The reaction with the colon bacillus can be tested with ease by placing a duplicate drop of blood-solution or serum on the cover-slip with the drop to be tested by typhoid culture and mixing it with a drop of colon-bacillus culture. Pseudo-reactions can be avoided by using stock-cultures kept at room temperature, and transplanted infrequently. Test cultures grown in bouillon from the stock at room temperature for twenty-four hours are free from scum or sediment, and give reliable results.

The authors formulate their conclusions thus:

The difference in reaction observed between typhoid blood-solution and blood-serum is not simply due to varying intensity, but to an alteration in the relative prominence of the agglutinative, paralytic and disintegrative phenomena which constitute the reaction. The extent of this difference also varies with the virulence of the culture, but the difference probably depends also on the presence of part of the specific substances elsewhere than in the blood-serum.

Blood-solution has a greater capacity than blood-serum for producing the disintegrative (bacteriolytic) changes described by Pfeiffer. Descriptions of this phenomena are conspicuously absent from the many recent accounts of the reactions with typhoid serum as observed in hanging drops.

The paralytic effect is apparently more marked with serum than with blood-solutions.

Agglutination without stoppage of motion is more readily occasioned in virulent cultures by blood-solution than by serum, and does not indicate existing typhoid.

It appears preferable that for the dry-blood method only attenuated cultures should be used. These have the advantage of being more easily kept in readiness than virulent cultures, and are less sensitive to changes of temperature. With the serum method virulent cultures give prompt results. Dried blood-serum can be readily obtained and transmitted to the laboratory by pushing aside the edge of a blood-drop which has clotted for a few minutes but has not dried, and collecting the serum beneath it on the tip of an ivory vaccine point. This does not, however, give a quantitative result.

For ordinary diagnostic purposes, the simplicity of the method as originally described does not require modification, provided attenuated cultures are used.

A drop of the solution obtained from a dried typhoid blood-drop, mixed with a drop of the culture, will give the reaction promptly, without any special attention to the degree of dilution. In order to obtain the best results, it is well to dilute freely and especially to avoid having a sticky solution of syrup-like consistency.

In cases where the clinical type strongly resembles typhoid and where the serum does not give the typhoid reaction, a decided reaction with cultures of the colon bacillus may explain the symptoms.

The authors' results with the dried-blood test have been very satisfactory, giving uniformly positive results with genuine and well-marked typhoid cases, and not reacting with non-typhoid bloods when attenuated cultures were employed.

Although the use of serum undoubtedly enables the results to be recorded and compared with greater scientific precision, dried blood answers just as well for routine diagnostic work.

The alterations in reaction, induced by very slight modifications of the manner of testing, help to explain differences in the results reported by experienced and careful observers. With the same blood and culture, the amount of dilution possible largely depends on whether plain bouillon, bouillon culture or water is used for diluting. The authors do not think that anything less than complete clumping and total arrest of motion obtainable by the dry as well as the moist test in a young attenuated culture, should be regarded as a typical reaction.

Inoculation of Leprosy

The Sei-i-Kwai *Med. Jour.* for November publishes a translation of an article on the above topic by Dr. Hansen, of Bergen, which adds additional light to Mr. Hutchinson's theory respecting the close connection of fish diet with leprosy. The author says, according to the London *Medical Press:*

"I do not think that there is any choice given to the bacteria of leprosy as to localization, just as there is none to the tubercle bacillus. They develop wherever chance has deposited them, and wherever they find favoring conditions and no obstacles—for example, on the outside of the arm, where there is little muscular movement. On the exposed portions of the body, oxygen retains and feeds them. The inoculation by insects can only be successful in these places; in others, circumstances are too much against them. An internal inoculation is also easily imaginable and even probable. Salt fish is eaten all over the world; raw fish is eaten only in some countries, like Japan. Fish, especially the carp, which is so general an alimentation in Japan, where it is eaten raw, and even alive, feed on the larvæ of mosquitoes, and may thus be suspected of communicating the spores of disease extracted by the insects from the exposed parts of diseased bodies; if not, however, spores, then the toxins of the bacilla. In reflecting, then, upon these points, I should be disposed to conclude that external leprosy inoculation means tubercular leprosy, and internal inoculation, anesthetic leprosy."

The Microörganism of Scorbutus

Testi and Bebi, in the *Arch. Ital. di clin. Med.*, ref. in the *Centbl. f. inn. Med.*, 1896, No. 19, p. 503, assert that scorbutus is an infectious disease, and that they have found the microörganism. With sterilized instruments they removed from the characteristic foci upon the gums small portions of the mucous membrane. These were triturated in a mortar with sterilized, freshly boiled water, and then drops of this fluid were employed for cultures upon gelatin, agar and glycerin-agar. The authors claim to have constantly found a diplococcus, which in some of its features resembles the Staphylococcus pyogenes aureus, and which, for this reason, may have heretofore been overlooked. It is said to differ from the pyogenes aureus in that this coccus never gave rise to septicemic infection in rabbits and guinea-pigs, but only to hemorrhages of the skin, mucous membranes and serous membranes. With this organism the authors were able to induce regularly in animals scorbutus-like hemorrhages. They never observed these microbes in the blood of man or experiment animals. According to them, scorbutus is not a bacteriemia, but a toxemia. The toxic products are taken up from the gums into the circulation, and in this manner produce the characteristic scorbutic dyscrasia. The fact that scorbutic phenomena can be produced by the blood of infected animals as well as with sterile cultures, is looked upon by the authors as proof of this assumption. The microbe of scorbutus described by Babes, the authors believe, is a bacillus of hemorrhagic septicemia.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.

Orexine as a Stomachic

Aufrecht, in *Les nouveaux Remèdes* (No. 1, p. 15, 1897), claims that basic orexine can be easily and clearly differentiated from hydrochlorate of orexine, formerly much used, but of late quite disused on account of its uncomfortable secondary effects and its disagreeable odor. Finally, the base and the hydrochlorate differ completely in their solubility in water. The hydrochlorate gives with boiling water a limpid solution; on cooling, it crystallizes out in time into white needles. The base on the other hand in boiling water assumes the form of minute oil-globules, and the solution on cooling has a milky appearance, only a small portion of the base being dissolved. After more complete cooling the oily droplets cast into hot water form crystals little by little. Finally, the base is quite insipid as compared with the hydrochlorate.

The author believes he can rightly affirm that the orexine is by far superior to all other stomachics ordinarily used.

Caroid

In the *Hyg. and Dict. Gaz.*, March, 1897, R. H. Chittenden, Ph.D., M.D., Professor of Physiological Chemistry at Yale University, describes a large number of experiments on the proteolytic and amylolytic action of caroid as compared with papoid. The tests were conducted with moist beef, cooked beef, coagulated egg-albumen, starch-paste, in succession, and tried with plain water, acidulated water, and water made alkaline with sodium bicarbonate. As a result of these tests he discovers caroid to be far superior to papoid. He closes with the statement that the presence of alkalis retards the diastatic or amylolytic action, but the caroid shows throughout very much greater amylolytic power than the other preparations (papoid, papain, and papoin).

Ergotin in Nephritis

According to M. S. Pulverenti (*Sem. méd.*, 1896, No. 51, p. 202), ergotin has the effect of causing a considerable reduction in the albuminuria in nephritis, in a few days, and at times even its complete disappearance, being then generally accompanied by the amelioration of all the morbid symptoms..

In acute nephritis, treatment by ergotin, provided it be given at the beginning of the attack, insures a rapid cure. In chronic nephritis, the evolution of the disease is sensibly retarded.

The ergotin should be given in the doses given below for five or six days successively, and at the end of that time the doses should be gradually reduced. The use of ergotin must, however, be avoided in nephritis where anuria, or the slightest symptom of uremic intoxication is present. Atrophy of the kidney, arterial sclerosis, and gravid nephritis constitute also, as may be easily understood, conditions that contraindicate the use of this medicament.

The remedy is best employed as follows:

Ergotin...........	5 to 7.5 gme.
Gallic Acid..............	8 gme.
Ext. and Powd. Krameria..	Sufficient for 20 pills

Four pills daily.

Where the pill form is inconvenient, the following mixture will be found suitable:

Ergotin..................	2 to 3 gme,
Gallic Acid,......	4 gme.
Mucilage Acacia..........	200 gme,
Saccharin................	0.05 gme.

Tablespoonful every two hours.

Eligible Vaso-Motor Stimulants and Blood-Builders

The *Times and Register* (March 6, 1897), says that it is probable that no busy practitioner is doubtful as to the therapeutic value of mercury and arsenic. It is just as probable that every physician has frequently encountered grave difficulty in his attempt to administer these agents for a sufficient length of time, or in proper quantities to produce their full therapeutic effect. Long before their remedial properties have had opportunity to exert themselves some form of stomachic disturbance or an exhausting diarrhea accompanied by profound mental depression, have indicated their discontinuance for sufficient time to permit the patient to re-establish such tone as would enable him again to "stand the treatment."

This is especially true of mercury. That these metals have been rendered more easy of assimilation, and their therapeutic value distinctly enhanced by skillful manipulation and combination, recent medical literature leaves little doubt.

In the preparation known as arsenauro we have in solution a combination of the bromides of arsenic and gold, which is certainly an advance in pharmacy.

Mercauro, which is one of the same class, has in addition to gold and arsenic the bromide of mercury in solution.

According to Drs. Stucky, Lydston, Wight, Dumesnil, Ingersoll, Wade, Kennedy, and others, these solutions are blood-builders and blood-makers, valuable nerve-tonics and vaso-motor stimulants, and in the experience of several, mercauro has earned first place in the treatment of the later stages of syphilis, with its accompanying nerve-tissue degeneration.

Itrol (Citrate of Silver) in Gonorrhea

On the advice of Credé, Werler recounts in *Berl. klin. Woch.* (1896, No. 37), his experience with itrol in acute and chronic gonorrhea (fifty cases), gonorrheal urethritis in women (three cases), also gonorrheal inflammation of the vulvo-vaginal gland (bartholinitis) and chronic cystitis. He has prescribed it for patients to use on themselves as well as for irrigations and lavages by Diday's method as modified by Janet.

In acute cases he commenced with a solution of 1 to 8000, thus:

Itrol	0.025 gme.
Water	200 gme.

Sig.—Keep in yellow glass bottles and make intra-urethral injections four times a day.

Later he uses the following solution:

Itrol	0.03 to 0.05 gme.
Water	200 gme.

The beneficial effect depends a good deal on the early use of the itrol. It should be employed as quickly as possible after the commencement of the infection, to prevent the gonococci from spreading and sinking deeper into the urethral mucous membrane.

In all cases treated by the author, itrol is shown to be an excellent disinfectant and bactericide, acting energetically even in extremely dilute solutions. He summarizes:

1. Itrol is endowed with energetic germicide power against gonococci;
2. It influences favorably the urethral mucous membrane without provoking irritation, or increasing in the least the inflammatory state;
3. It acts vigorously on the deeper layers of the urethral mucous membrane without injury to the latter by prolonged contact.

Nucleo-Albumin and Iron Therapy

In a paper read before the Post-Graduate Clinical Society, Feb. 19, 1897, Dr. William Henry Porter states that the physiological action of nucleo-albumin is based upon the general principles that plant-life is concerned chiefly in synthesis, while animal life, on the other hand, is confined almost exclusively to the reverse process, or katabolic destruction with an associated mechanical anabolism.

Nucleo-albumin is found as a common constituent of all cells, both in the vegetable and animal kingdom. It is far more abundant, however, in the former than it is in the latter class, and it is especially abundant in the green vegetables and in the legumins. It more closely resembles the globular series of the proteids than any of the other proteids. It differs absolutely from the globulins, however, in that it contains in its complex composition both iron and phosphorus, neither of which is found in the globulins.

He outlined a theory, which briefly summed up, is as follows: The intake and output of iron by the system is, comparatively speaking, very small; the iron in organic combination, commonly found in the food-stuffs as nucleo-albumin, is the only source of iron supply to the system for the formation of hemoglobin; the amount of nucleo-albumin as ordinarily contained in a well-regulated mixed diet is far in excess of the requirements of the system daily.

The inorganic salts of iron are never absorbed and utilized by the system. This assertion, says the writer, is supported by the results of experimental work that has been done in this line, all of which goes to prove that the inorganic forms of iron cannot be absorbed from the alimentary canal. The author further states, that injections of iron salts into the circulation caused, experimentally, symptoms of poisoning. In all these instances the iron acts like all other metallic poisons, and causes degeneration of the epithelial cells of the glandular organs. No amount of the iron salts given by the mouth will cause the iron in this inorganic form to appear in the urine, as has been found to occur after it has been hypodermatically introduced into the circulation.

When manganese salts were injected into the circulation they appeared rapidly in the renal, gastric and intestinal secretions. On the other hand, when the manganese salts were introduced into the stomach for a long period, no manganese could be found in the mucous membrane of the intestines after washing, nor did any pass into the urine. These observations harmonize with those on the iron salts, and, in a measure, confirm the view that the iron salts are not absorbed and utilized by the system.

It is apparent that the only method by which iron is supplied to the system is by the absorption of the nucleo-albumin that is found in all foodstuffs. The inorganic salts of iron are of no avail unless there is an excess of the sulphur compounds in the alimentary canal.

We now see for the first time why the general opinion that the iron salts are contraindicated in the acute febrile conditions is a correct one. The anemia of these diseases is not, as a rule, traceable to the action of the sulphur compounds in the alimentary canal, but is due chiefly to the action of the toxins within the system, which both destroy and prevent the formation of the hemoglobin within the animal economy. Hence, the inorganic salts of iron can only act as irritants to the already weakened digestive system. They are useless, and to administer them is a waste of material and money.

There are one or two exceptions to this general rule, as, for instance, in erysipelas and diphtheria. In these two diseases, and especially in the former, there is an overproduction of the sulphur compounds in the alimentary canal, which causes a very rapid withdrawal of the iron from the nucleo-albumin. This, added to the action of the toxins of the disease, causes a rapid loss of hemoglobin and a progressive lowering in the oxygenating capacity of the system, so much so that the fibrin-forming function is largely destroyed, and nature is deprived of one of the essential ingredients which is necessary to enable her to cope successfully with the existing pathological process. In this particular disease, the chlorid of iron rapidly satisfies the sulphur compounds; the system is placed in a position in which it can take up and convert the nucleo-albumin into hemoglobin. This accomplished, the oxygenating capacity of the economy is greatly increased, the fibrin-forming function is augmented, and a rapid reparative action is made possible. Thus, an old and well-recognized clinical fact, the quick recovery from an attack of erysipelas under iron medication, is clearly elucidated.

In chronic diseases like diabetes, the renal affections, etc., both factors are at work in producing the anemia, the sulphur compounds destroying the nucleo-albumin in the alimentary canal, and within the system; pathological processes are at work which tend to destroy the hemoglobin more rapidly than it is replenished.

Since this paper was read, the Palisade Manufacturing Co. have produced in accord with the theory here advanced a concentrated nucleo-albumin solution—and called hemaboloids—and the results obtained have so far been quite satisfactory.

The Action of Serums on Nervous and Mental Diseases

Messrs. Mairet and Vires have given, in the *Nouv. Montpellier Méd.*, No. 8, 1897, p. 141, the results from a series of experiments made with injections of different kinds of serums, upon mental and nervous cases. The conclusions reached are:

1. Hypodermic injections of pure artificial serum are innocuous and have no appreciable therapeutic effect in epilepsy nor in mental diseases.

2. Hypodermic injections of artificial serum containing medicinal agents are inoffensive. The serum renders the introduction of the medicine more certain. Certain drugs were found to be ill adapted for this purpose, their effects being negative; these were, potass bromide, ergotine, and phosphoric acid. Urethane alone seemed to give by this method positive results In maniacal excitement, control of the symptoms was certain, and followed more rapidly than when introduced by the stomach.

3. The blood-serum of the rabbit and the dog seemed to produce positive results, that of the former, however, much less than that of the latter.

4. Pure blood-serum produced as its chief physiological effect, local or general erythema, in all respects similar to the described erythemas of serum-therapy.

5. The therapeutic effects which are useless in hysteria and epilepsy, and in those forms of mental disease with exaltation, are, however, more valuable in cases associated with depression. In these cases a temporary stimulation is obtained. By repeated injections a decided amelioration has been produced, but in no cases could a cure be said to have been obtained. Coincident with the amelioration of the psychical condition the bodily functions were greatly improved; enough so to cause the belief that the mental improvement followed the psychical gain.

6. The studies of the action of serums applied to the treatment of nervous and mental diseases would seem to point to their value in certain cases, and the extension of the methods might lead to some permanent cures.

Therapeutic Applications of Blood

In the *Med. Times*, May, 1897, are described the results of experiments of Dr. Brakenbridge, of Edinburgh, Dr. W. H. May, of New York, and Dr. T. J. Biggs, of New York, with bovinine. The conclusions reached are: (1) That bovine blood can retain its vitality indefinitely; (2) that it possesses a reparative power in pathological conditions hitherto unsuspected; (3) that it can be administered successfully by the stomach, subcutaneously, by application to denuded surfaces, or by rectal injections; (4) that in some unexplained way it acts as an analgesic when applied to painful spots; (5) that in wasting diseases, hemorrhage, anemia, and exhaustion, it restores the system, repairs the waste, and gives the patient new vitality; (6) that there are indications that it may be efficient in removing malignant neoplasms.

REVIEWS

Syringomyelia.—By Guy Hinsdale, A.M., M.D. Philadelphia: P. Blakiston, Son & Co. 1897. Price $1.

This is a reprint in an attractively bound form, of an essay to which was awarded the Alvarenga prize, of the College of Physicians, of Philadelphia, for the year 1895.

The author has given a presentation of this interesting disease, which is at once explicit, full, and up-to-date. It is in great part a compilation of the work that has been done, and the very excellent bibliography of over five hundred titles is a painstaking and careful one.

The work will be of value to the neurologist and practitioner; the bibliography alone would render it of great service to the specialist.

Manual of Static Electricity in X-Ray and Therapeutic Uses.—By S. H. Monell, M. D., Founder and Chief Instructor of the Brooklyn Post-Graduate School of Clinical Electro-Therapeutics and Roentgen Photography; Fellow of the New York Academy of Medicine, Member of the New York County Medical Society, etc., etc. New York: William Beverley Harison, publisher, 3 and 5 West Eighteenth Street. Pages, 614; octavo; cloth; gilt. Price $5 net; postage, 35 cents.

This useful volume is one that every physician and surgeon who is interested in the medical applications of electricity should possess. It is the only work of the kind in the language, and as a pioneer production is remarkably complete in its details and thorough in its descriptions. Dr. Monell is evidently an enthusiast in his faith in the healing virtues of static electricity. The failures of the Holtz machine to give good results he considers due to the bad care or unskillful management of the operator. He thinks that the twin enemies of dust and damp have done more to discredit its results than anything else. A chapter is devoted to collected opinions as to the value of static electricity in medicine, in which citations are made from many authors, both for and against, and then a reconciliation of the conflicting opinions is sought. Directions are given for the care of the Holtz machine, for methods of managing patients when being treated with the current, and for the use of X-ray apparatus therewith. Chapter VII says: "The high potential static current from therapeutic Holtz machines is superior to any coil known to be made at this date (Feb. 24, 1897) in respect to economy, value, efficiency, satisfaction, reliability, and almost all that pertains to the medical and surgical uses of X-rays in hospital and office practice." There is certainly no uncertain sound in such an indorsement. In Chapter XI it is maintained that high efficiency is always desirable in using X-rays, and that "tubes which are too penetrating must as yet be placed in the same category as 'nuggets of gold that are too big.'" The author says that "the rays which cause dermatitis are evidently the old radiant heat-rays discussed by Crookes." He holds that by the use of static electricity with the tubes there is no danger of such accidents occurring. The great body of the work is devoted to the therapeutic uses and value of electric treatment when properly conducted. To one who has neglected the study of this phase of medical science, the great results described, and the multitude of ailments that can be benefited thereby will prove quite a revelation. The closing chapter deals with the claim that mental suggestion is the foundation of electric cures and while acknowledging that this may have some effect, denies that it is the important factor. The author says: "The therapeutic work it will do and repeat, and repeat again with celerity, thoroughness, and unfailing definiteness of action, we cannot succeed in duplicating by any other means at our command. Nor are we aware of any other medicinal agent employed against disease which will accomplish as definite a result in so short a time, and which is so frequently lasting in its effects."

The paper, typography, binding, and mechanical work generally, of the volume, are excellent.

A System of Medicine: By Many Writers.—Edited by Thomas Clifford Allbutt, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.L.S., F.S.A., Regias Professor of Physic in the University of Cambridge, etc. In three volumes. New York: Macmillan & Co. 1896.

This excellent, up-to-date work on General Medicine is sold only by subscription. The first volume on Fevers, and the second on Gynecology, have already appeared. The third is announced as ready for publication, and treats of Infective Diseases of Chronic Course. We know of no work on practice that more completely brings the reader in touch with the latest theories and discoveries in advanced pathology than this does. Each phase of every subject dealt with is handled by a specialist. Medical men of world-wide reputation, from every part of the globe, have been called upon to contribute their share in the construction. It is therefore authoritative in every page. The names of over forty authors appeared in the first volume, twenty-six in the second, and there will be a correspondingly large number in the third. The contents of the coming volume will include Infective Diseases of Chronic Course, *e. g.*, Tuberculosis and Leprosy; Diseases of Uncertain Bacteriology, Measles, Scarlet Fever, Mumps, Small-pox, Whooping-Cough, etc., Typhus Fever, Yellow Fever, Dysentery, Infective Diseases Communicable from Animals to Man, Rabies, etc.; Diseases Due to Protozoa, Malarial Fever, etc. The book closes with some special papers on Intoxications, including Poisonings of various kinds, Alcoholism, etc.; Internal Parasites, and a few addenda to early articles. As usual, there are serviceable indexes and all that is necessary to make a work of such great intrinsic value easy of reference.

Among the contributors we notice the names of Dr. William Osler, of Baltimore, writing on Malaria, etc.; Dr. Ernest Hart, Editor of the *British Medical Journal*; Dr. Henri Lafleur, of Montreal; Dr. Kenneth MacLeod, Professor of Surgery in the Medical College of Calcutta; Professor Charles James Martin, of the University of Melbourne; Dr. G. Sims Woodhead, Director of the Research Laboratory of the Royal College of Physicians and Surgeons, London.

No pains have been spared to make the work the best of its kind, and, as is shown by the above list, the editors do not hesitate to send to any part of the world, however distant, for the contributions of those whose experience has made them the best authorities on individual diseases or classes of disease.

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According to the *Medical Times and Hospital Gazette*, His Highness the Nizam of Hyderabad, India, paid a Madras dentist $4,000 for a set of false teeth.

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EDITOR'S NOTES

The Association of American Anatomists has sent out to its members a list of items on which information is desired regarding the anatomical peculiarities of the so-called African race and its admixtures. Accompanying the list is a letter of instructions and explanations. These constitute a provisional report of a committee that has been appointed to investigate this subject. The committee desires the fullest criticism and suggestion. Dr. D. S. Lamb, of Washington, is chairman.

The Boston City Hospital is either libeled by the papers of that city or its management is in a most deplorable condition, its doctors ungentlemanly to patients, and its attendants rowdies. To dump the sick around like bags of sawdust, not attempting to lift or carry them; to use dirty thermometers, and go from mouth to mouth without attempting to wash them; to unceremoniously force catheters into the urethra so as to give pain and cause hemorrhage; and to shout "Shut up" at the sufferers who moan, or say "Oh," certainly does not look much like true charity. These are but a few of the many barbarities charged by the *Traveler* against them. We hope they are not true, and shall be glad to publish a denial if supplied to us.

The Board of Health of the city of Syracuse, N. Y., adopted a rule early in the year, that physicians should report cases of tuberculosis not for isolation, but for instructing sufferers and their friends on proper sanitary measures. As a result of the opposition of a few influential medical journals, medical men have refused to respond to the call and no reports have been made. Of course, unless a great majority do it, it would be something in the nature of business suicide for a few to try it. The general sentiment of the medical profession must favor or the public will resent it as officious and unwarranted exposure of what is only their own business. It is a great pity that such a condition exists. The time is coming when it will be deemed barbarous.

The large death-rate in the colored population of New Orleans caused a number of public-spirited gentlemen of that city to get up a meeting for the purpose of teaching sanitation to colored people. By scattering handbills freely in advance, they got together a good attendance. The president of Straight University, Mayor Flower, Dr. Lopez, Attorney Rice, and others talked to them of sanitary measures and sanitary laws. It is hoped that some good will result from the effort. A single evening's work of this kind cannot possibly bring about any marked improvement, but a continuous series of such would. The whole colored population of the South and all the tenement inhabitants of the North need such instruction, and need it badly. No better charitable work could be done than the bestowal of such knowledge upon the masses.

The National Association of Railway Surgeons held its tenth annual meeting in Chicago, May 3 to 6. A good attendance was present and many valuable papers read. On the last day of the sessions a trip was taken on Lake Michigan on the steamboat "City of Holland." The passengers had luncheon, music, and dancing on board, and all felt very grateful to Dr. J. B. Murphy, of Chicago, for such kind hospitality. May and June seem to be the favorite months for National Medical Conventions, and the large attendance that each calls out shows that there is an abundance of room for all of them. It is to be hoped that all of the gentlemen who have attended the May meetings will be in the humor and have the time to visit Philadelphia during the jubilee meeting of the American Medical Association, to make that a grand and long-to-be-remembered occasion.

The American Medico-Psychological Association met in Baltimore, Md., on May 11 to 15 for the second time in its long history of fifty-three years. They were welcomed by Governor Lowndes in a most interesting speech in which he traced the development of our present methods of treating the insane since the days when those unfortunates were looked upon as wild beasts. So good and so appropriate a discourse coming from a layman was no doubt somewhat of a surprise to the many alienists who listened to it. His reference to the great work of Dorothea L. Dix and his eulogy of her struck a sympathetic chord in the hearts of all listeners. Dr. Ellis, president of the Medical and Chirurgical Faculty, followed the governor and tendered the use of the buildings to the convention. He referred to the opportune time of their coming to Baltimore, as there is at present new interest in the care of the insane of Maryland, and pointed out the impoverishing tendency of insanity upon the relatives of the insane. Dr. T. O. Powell, the president, responded in his happiest vein to these greetings of welcome. Many interesting and scientifically valuable papers were read.

A few weeks ago a physician in Minneapolis, Minn., refused to attend an urgent call to see a patient that attempted suicide unless he received his pay in advance. As usual, popular indignation was aroused against the doctor, the daily *Times* of that city going so far as to call such a refusal "professional cussedness." While we think that the refusal to act in such a case was wrong, still we cannot help believe that most of the "cussedness" belongs to the men and women who expressed their indignation at the affair. But for their "cussedness" such a thing could not have occurred. Had they, as tax-payers, made arrangements so that any doctor could demand from the city, say, half his usual fee in all emergency cases, nothing of the kind could occur. Why should these people, that set themselves up as judges of the doctor, refuse to put their hands into their pockets and divide the fee by paying part of it themselves? Why ask the doctor to bear the whole burden and take the whole risk? Such cases not only demand time in which he might earn more money while waiting upon them, but in many instances they mean hours or days from his duty, acting as a witness in court. We venture to assert that the indignant ones would in their own line of business be less generous than the average medical man is in his, where a case of suffering presents itself. We should like to know whether the editor of the Minneapolis *Times* puts free advertisements into his paper for penniless and hungry men who are seeking work. Or does he permit them to commit suicide, and then speak of the doctor who imitates his example as a case of "professional cussedness?" Is the manager of the *Times* a "cuss" if he refuses free advertising to the poor?

On May 13 Senator Gallinger again reported to the United States Senate his Antivivisection Bill, S. 1063. In his supplementary remarks he said: "We fail to discover in a single protest the slightest proof that those who condemned had read one word of the various provisions of the measure they denounced." Is the Senator quite sure that he examined the protests free from bias? We know of several that were written by men who are not vivisectors and who wrote in opposition to the measure after a careful and conscientious study of its provisions. This writer is himself one of them. We are pretty certain that in his attempted answer he failed to refer to those in our Editorial of April 10. Senator Gallinger has never yet given a particle of evidence showing the necessity for such a law. All of its good features are already embodied in law. All of its bad ones should not be legalized. Is every crank who comes along to have the right to consume the time of Congress by making it re-enact, in other words, laws already in operation, that some little side rider of his can be forced in therewith? Is every bigot who hates regular practitioners of medicine, and who dare not attempt to arrest their scientific progress in an honorable manner, to be permitted to consume the public funds and occupy the time of Congress with covert attacks that strike at the very vitals of biological science? We do not think that Dr. Gallinger would knowingly lend himself to any such attacks. We believe him to be too fair a man to allow his eclectic and homeopathic education to bias him against regular practices. Only small minds are subject to such distortion. We do, however, know that the best men are swayed by friendship and carried away by feeling. Naturally, some of the advisors of Dr. Gallinger are the foes of everything they deem "allopathic," and as this measure is a shot that many hope will hurt the growth of "allopathy," they are pushing it with all their might.

PUBLISHERS' DEPARTMENT

RESINOL

Dr. Wm. Caspari, of Mitchellsburg, Ky., writes to the Resinol Chemical Company, of Baltimore, Md., as follows:

"Pruritus vulvæ and ani, as well as itching piles . . . were formerly considered as terrors to physicians as well as patients. Since Resinol has made its appearance, they have lost their terror. . . . Three cases of the first, two of the second, and one of the third ailments yielded readily by the use of Resinol . . . after other remedies had been used in vain for some time. With it I have also cured two cases of scrotal eczema, that were exceedingly obstinate before, under other treatment. Lastly, I used it in scabies, five cases in one family, and all were sound and well in a very short time. . . . It has given much better results than solutions of carbolic acid, corrosive sublimate, etc. . . .

NEUROSINE

Deering J. Roberts, M. D., Editor of the *Southern Practitioner*, Nashville, Tenn., states in a paper on "Nervous Diseases and Treatment:" "Neurosine, not containing, opium, morphine, or chloral, makes it more commendable, as we all know the dangers resulting from the use of such hypnotics and narcotics, and the general unsuitability of drugs of this class in the treatment of all nervous diseases. I have found Neurosine so uniformly satisfactory that I but deem it my duty to let others know the benefit I have derived from its use."

DIOVIBURNIA

This well-known preparation, made by the Dios Chemical Company, St. Louis, Mo., is the subject of an advertisement on page 18, of this issue, that will commend itself to everyone for its originality and forceful design. An announcement so artistic cannot fail to attract a great deal of attention.

CROUP

But a very small percentage of all cases of membranous croup are not diphtheria in its worst form (laryngeal diphtheria). The treatment, to be successful, must be started early. Christian Cook, M. M., in the *Medical Council*, reports a single case to illustrate the effects of antitoxin in such cases. He uses Mulford's concentrated antitoxin in adequate doses. In concluding his report he says that in the future he will use even larger doses at shorter intervals in all cases of this class. He regards all these cases as pure diphtheria till proved to be otherwise. The proper dose is stated to be 2000 units, repeated within twelve hours.

PEERLESS PIN-HOOK

This Pin-Hook, patented December 17, 1889, is fastened without sewing into the material, and will be found particularly valuable for surgical bandages where usually ordinary pins have to be used. It is not used as a hook-and-eye, but the Pin-Hook sits in one part of the fabric and the points are put into the other part, holding the two firmly together. To the surgeon this will be found a great convenience, and it is being largely adopted in hospitals generally. This useful little invention is manufactured by the Peerless Pin-Hook Co., 115 Worth street, New York.

NEWS

Kentucky has elected a doctor to represent it in the United States Senate.

The medical department of the University of Vienna has just graduated the first woman in its history.

The congress was attended by nearly 1000 practitioners, representing all parts of this country and Canada.

Sajous' Annual of the Universal Medical Sciences is about to transfer its editorial headquarters from Paris to Philadelphia.

Invitations have been sent out by the German Government for a Congress on Leprosy, at which Dr. Koch is to preside.

According to the Cincinnati *Lancet-Clinic*, Scotland has the largest population of doctors of any country in the world.

According to the Chicago "Record," Dr. Nicholas Senn, of that city, offered his services as a surgeon to the Greeks.

The highest death-rate in the world from alcoholismus is said to be found in Sweden, where it amounts to 90 per 1000.

The local managers of the Moscow Congress are arranging a free excursion to the Caucasus in a train with dining and sleeping cars.

By the late decision of the New York Court of Appeals in the Fairweather will case, the University of Virginia receives $150,000.

Washington, D. C., has been adopted as the permanent triennial meeting place of the Association of American Physicians and Surgeons.

Dr. Khory, according to the Indian *Lancet*, is distributing in India a prophylactic against the plague. There are more applicants for it than he can supply.

The introduction to the sessions of the Washington Medical Congress was followed by an elaborate dinner given at the Arlington. There were 250 covers.

The congress also accepted an invitation, extended by the Cosmos Club for a "smoker" in the clubhouse, which was held in the evening of the third and last day.

The degree of Doctor of Medicine has been conferred by an Austrian university on the Baroness Possauer. She is the first woman to secure the degree in that country.

Dr. Leo Ross, senior assistant house-surgeon at the Woman's Hospital, New York, died at that institution recently, having been burnt while removing a pot of sterilized catgut and alcohol from the fire.

Drs. Welsh and Osler, of Johns Hopkins University. Baltimore, were lately offered pro fessorships in the University of New York. A large salary was offered them, but they declined the tempting bait.

The wife and daughter of Duke Charles Theodore of Bavaria act as nurses, wearing black uniform dresses, with linen collars and cuffs and large aprons, and assisting the duke in his three ophthalmic hospitals.

The Minnesota State Bacteriological Laboratory has made about 1600 examinations of specimens of diphtheria in the past year, 565 of them being made in the past three months. They also use the Widal-Johnston test extensively.

The ex-county clerk of Detroit, Mich., was recently graduated from the Detroit College of Medicine. He says: "No lawyer can properly try a case involving medical science, without having a knowledge of medicine and surgery."

The railroad companies have changed their terms for the carrying of corpses. They now demand that every dead body be transported as express matter. Before bodies can be shipped, permits from the health department must be had.

The third annual meeting of the American Laryngological, Rhinological and Otological Society, held in Washington during May 2 to 3, proved exceedingly interesting. The subjects of most general interest were those on "Laryngotomy."

Dr. Emma Wakefield, a colored woman, has received a license to practice medicine from the Louisiana State Board of Medical Examiners. She is the first woman of her race to receive a medical license in the South, and, it is claimed, in the Union.

The members of the medical profession of Atlanta, Ga., are much exercised over the impending trial before a medical court of thirteen of the best-known physicians in the South on a charge of permitting their pictures to be printed in the newspapers.

The last day of the session of the Congress of American Physicians and Surgeons, recently held at Washington, D. C., was concluded by the unveiling of a monument to the late Dr. Gross. It was received by Surgeon-General Sternberg in behalf of the Government.

The New York State Board of Health is about to inaugurate an investigation as to the pollution of Brooklyn's water supply. The board has also decided that hereafter all antitoxin must be tested by the officials of the board before being placed on sale in this State.

According to the Sioux Falls, S. D., *Press*, a young man named A. C. De Bow, who has been passing as a physician, is an impostor, and he has been practicing under a diploma granted to Dr. Alvin C. De Bow, of Dennison, Tex., in 1869, by the University of the City of New York. The diploma was stolen from Dr. De Bow's office in Dennison about two years ago.

In a report read before the Washington (D. C.) Congress of Physicians and Surgeons, Dr. William Northrup said the committee has received reports from 422 physicians residing in twenty-two of the United States, and in the District of Columbia and Canada, of the use of antitoxin in 1700 cases of diphtheria. Out of this number only 17 per cent. proved fatal.

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OBITUARY

Dr. Lyman Moore Tuttle, of Holyoke, Mass., on April 26, aged 60 years. He graduated from the Albany, N. Y., Medical College in 1859. He served as surgeon in the war and then settled at Holyoke in 1869, where he has practiced ever since. He was one of the founders of the city hospital and gave liberally of his time and money to its support.

Dr. W. Clinton Thompson, of Indianapolis, Ind., on April 19. aged 85 years. He graduated in 1839 from the Ohio Medical College. Since 1847 he has practiced in Indianapolis except during his service as surgeon under Generals McClelland and Pope. He was one of the charter members of the Indiana State Medical Society, which he helped organize on June 6, 1849.

Dr. William G. Wheeler, of Chelsea, Mass., on April 17, aged 76 years. He graduated at the Geneva Medical College (now the Medical College of the University of Syracuse), in 1845. He practiced in Chelsea since 1849, where he has had charge of the poor-farm and served as city physician. During the war he was a Government examining physician. He was a member of the American Medical Association, Massachusetts Medical Society, Boston Society for Medical Improvement, Boston Gynecological Society, in which he served as president, and Suffolk District Medical Society, in which he served as vice-president. He was an honorary member of the Surgical Staff of the Lynn Hospital and consulting physician to the Massachusetts Soldiers' Home.

Dr. Traill Green, of Easton, Pa., on April 29, aged 84 years. He graduated from the Medical Department of the University of Pennsylvania in 1835 and at once began practice in Easton. In 1841 he was called to the chair of natural sciences in Marshall College, Mercersburg. Washington and Jefferson College conferred the degree of LL. D. on him in 1866. He took a deep interest in science and his name has been connected with many famous works. He built the astronomical observatory and presented it to Lafayette College. For nearly half a century he was a member of the American Association for the Advancement of Science. He organized the Purdue scientific department at Lafayette and until a few years ago was its dean. He was the first president of the American Academy of Medicine and a member of many other scientific bodies. Dr. Green was an author of note, "Zoölogical and Floral Distribution of the United States" being one of his works.

NATIONAL MEDICAL SOCIETIES

Annual Meetings

NAME OF SOCIETY	PLACE	TIME	SECRETARY	RESIDENCE
American Academy of Medicine	Philadelphia, Pa.	May 29-31	Dr. C. McIntyre	Easton, Pa.
American Academy of Railway Surgeons	Chicago, Ill	Sept.	Dr. D. C. Bryant	Omaha, Neb.
American Assoc. Obstetrics and Gyn.	Niagara Falls, N. Y.	Aug. 17-20	Dr. W. W. Potter	Buffalo, N. Y.
American Electro-Therapeutical Assoc.	Harrisburgh, Pa.	Sept. 21-23	Dr. M. Einhorn	New York City.
American Medical Association	Philadelphia, Pa.	June 1-4.	Dr. W. B. Atkinson	Philadelphia, Pa.
American Public Health Association	Philadelphia, Pa.	Sept.	Dr. I. A. Watson	Concord, N. H.
Association of Military Surgeons of U. S.	Columbus, O.	May 25-27	Dr. H. Burgin	Philadelphia, Pa.
Canadian Medical Association	Montreal	Aug.	Dr. F. N. G. Starr	Toronto.
Mississippi Valley Medical Association.	St. Paul, Minn.	Oct. 19-22	Dr. H. W. Loeb	St. Louis, Mo.
Southern Surgical and Gynec. Assoc.	Nashville, Tenn.	Nov. 10	Dr. W. E. B. Davis	Birmingham, Ala.
Western Surgical and Gynec. Assoc'n	Denver, Col.	Dec. 28-29	Dr. H. E. Pearse	Kansas City, Mo.

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EDITORIAL

MILK AND DISEASE

ONE of the most remarkable of the many singular relationships of life is that which subsists between favorable and unfavorable conditions of existence. Whichever way we look we cannot but discover evidences of the fact that those very conditions that conspire to our advantage in one place lead to our injury in another. All the forces of nature when under our control are beneficent, but once let them escape from our direct supervision, and they immediately revert to conditions of danger. Out of our control, they all act as if malevolent foes. Life is one incessant series of adjustments. Death lurks in every place, and we can only escape it by incessantly rearranging and redirecting the relationship of things to our advantage. The slightest deviation from the narrow path allotted to life means death. The popular expression that fire is a good friend but a bad master is a homely recognition of this truth. In our social relationships we see its manifestation at every turn. Power in our own hands or in the hands of our friends is an excellent thing for us, but power in the hands of our foes is dangerous to our well-being. Money is the root of evil when directed in the path of evil, but it is equally the root of good when used properly. The principle is universally applicable. Whatever is good becomes bad when misdirected, and the better it is the worse it becomes by misdirection. Disease in every guise and form in which it appears is only the maladjustment of conditions that, if properly and harmoniously related to our requirements, would be perfectly beneficent. There is no such thing as disease *per se*. If there was there would be little use for physicians. Disease as an entity would be incurable. The function of the medical man is to aid in the readjustment of misdirected conditions. Such readjustments, when made within the organism, we call cures, and when made in the environment, sanitation. The food we eat and the water we drink bear to our bodies the forces that bring us life and health. Any perversion of these forces will cause them to bring disease and death instead. If good things become bad by misdirection, and if the better a thing is the worse it becomes when we have lost control of its power, then we should not be surprised at finding that food and drink are the direct carriers of disease and death. By virtue of the same principle, should we not also expect to find that the most ideally perfect food we have is the most dangerous menace to life and health? The very properties that make a food ideally perfect for us render it almost as perfect for micro-organisms as well. The more benefit the sick or well can be expected to derive from a given form of food, the more danger should be anticipated from its use if kept in unsanitary conditions.

No one article of human diet has received as much praise as milk. Its ideal composition has been sung into our ears by physiologists and sanitarians for a generation or more. It is time for us to pause and enquire whether or not this song is not after all like that of the Lorlei. Are we not being lured by it into a vortex of death? In it we have all the conditions of a perfect culture-medium for pathogenic bacteria. So far as we know to the contrary the can of the milk-man is capable of becoming a veritable Pandora's box, containing every form of disease that flesh is heir to. From it diseases may be dished out wholesale upon the community in every direction and when they are thus scattered the poor victims will hug the fond delusion of hope that in this same can they will find health and life. If clothing, toys, furniture, carpets, books and other such fomites can carry disease why not milk? If the families of artisans, merchants and others become sources of contagion, why not farmers and dairymen? But if milk does carry disease what a power for evil it must be. No other known medium of commerce is capable of multiplying micro-organisms as it is. A few germs from a garment might not be enough to overcome the natural immunity of the individual receiving the same. Let the same number of germs enter a milk-can into which is poured warm, fresh milk from a cow and then what is likely to occur? The supply of germs, however meagre, multiplies to millions or even billions in a brief period of time. A single match might not be able to kindle the wood-work of a building, but it could kindle a mass of kerosene-soaked rags and these in turn could fire every building in a city. A single germ would probably be incapable of starting a disease in a fairly immune person. Let that germ drop into a can of milk and have the same person and others drink that milk after it had multiplied for some time and then note the results. People fly in terror from plague or cholera and have a wholesome fear of approaching those sick with contagious diseases, but there is little or no fear of milk. Is it not just possible that in it we have as great or a greater danger than in actual contact with sufferers from disease? Who can tell? Our boards of health are teaching us to fear infection from tuberculosis through this source, but they say little about other affections. American medical journals frequently refer to this danger, but rarely do they tell us that measles, scarlet fever, diphtheria or typhoid fever are quite as likely to be borne to us in the same way. Is it not likely that there is as much or more danger of the latter as the former? Mysterious epidemics of scarlet fever are not uncommon. May they not be milk-borne? Diphtheria and typhoid fever when ravaging a community may have been borne to the region in the milk-can. Why do we not make some effort to find out whether or not this is so? The storing, collecting, transporting and dispensing of milk, all subject it to the danger of infection. Its composition makes it the most likely article in the world to harbor and multiply disease germs. What are we doing to protect ourselves from this possible danger? What have we done by way of examining into this matter to find out just how serious the danger really is? If there is no such danger an examination will reveal it. If there is we certainly ought to know it. Examining milk for its per cent. of fat and for the presence of adulterants will not discover it.

DR. HART'S REPORT ON MILK

AT the meeting of the International Medical Congress of 1881, Dr. Ernest Hart, Editor of the *British Med. Jour.*, read an exceedingly important and interesting paper on the "Influence of Milk in Spreading Zymotic Disease." In it he clearly traced in a most convincing manner a large amount of evidence that seemed to prove clearly that seventy-three epidemics of disease in the British Islands that were then recent, had been caused by milk. Fifty of these outbreaks were of typhoid fever, fifteen of scarlatina and seven of diphtheria. At that time this record created quite a sensation in various parts of the world and we distinctly remember the profound impression that it made on many American medical men. Now that the matter is almost forgotten and that we have dropped back into the old ruts of thought concerning the method of propagation of these diseases, he comes forward again with fresh evidence and fresh enthusiasm determined to do his part in awakening the medical world from its lethargy in the matter. Some one has said that it takes at least fifty years for civilized man to appreciate a truth that he cannot coin money from. Is it possible that this is true where ignorance like a Juggernaut is crushing out human life by the wholesale in a way that is wholly and easily preventable? We do not know how much good his former report accomplished in the British Islands, but as we look at the results in this country we find that nothing has been done to check such wanton waste of human life. In Dr. Hart's new report we learn that he has gained evidence of ninety-five new epidemics caused solely by milk-infection. Of these forty-eight were outbreaks of typhoid fever, thirty-two of scarlatina and fifteen of diphtheria and diphtheria-like throat affections. He says that he is confident that this number, large as it seems, but touches "the fringe of the matter." He tells us that he "had occasion to omit many so-called 'milk-outbreaks' on account of the scanty thread which ran through the argument for milk as the *vera causa* of the particular epidemic." The cases chosen were such as clearly showed a causal relationship in several directions. In one epidemic at Upton, 77 per cent. of the families using the milk from a common source were attacked and 37 per cent. of the members of these families were made sick. In an epidemic of scarlatina in Glasgow, Scotland, "out of 193 families supplied with a particular milk service in one round, there were 57 families invaded and 91 individuals attacked; while of 166 families on another round there were 37 families invaded and 59 individuals attacked. Moreover, in one street 21 families, being more than half those supplied with the milk, were invaded, and yielded 29 cases."

On tracing out the various sources of the enumerated epidemics some rather surprising results were developed. Families were found that did not take suspected milk, but in which a member down with the disease had drank of such milk in a neighbor's house just prior to the attack or had partaken of ice cream from a vendor that had used that very milk. In one case a servant girl who visited an invaded district on a Sunday and who partook of some ice cream there, was the only member of the family attacked. Remote regions having the same milk supply would have simultaneous epidemics of the same disease and the country around them would be practically free from that disease. When the sale of infected milk was stopped in one city and the dairyman carried his product to another, the new region would in a few days develop an epidemic of the same kind as had occurred in the place from which he was driven. In a scarlatina epidemic at Hendon and in North London the inspector had an exceptional case to deal with. In one region that received its supply from the same farm there were no cases of the disease. On going to the farm he found that this region got its milk-supply from a different cowshed and different cows up to the time of the examination. Later milk was supplied from the other sheds, and the disease began there also. In nearly every case a cause was found upon the farms to explain the epidemics. When the disease was typhoid fever, someone there was suffering from it, and the milk-cans were washed with water contaminated by infected dejecta. When the epidemics were of scarlatina, members of the farmer's or dairymen's families were sufferers therewith or the cattle themselves had a disease that bacteriologists declare is the same to animals as scarlet fever is to men. When diphtheria was conveyed there were cases of diphtheria found to account for its spread. In one instance the dairyman was found to be walking through the dairy while himself a sufferer. In a typhoid-fever outbreak in Glasgow no satisfactory cause could be found at the farm, but that the milk was responsible could not be doubted because every case that occurred there at that time was in a person that had used that milk. Bacteriologists have repeatedly proven the relativity of insusceptibility to disease. This investigation confirmed their work in this respect. It was found that there was a direct relationship in the severity of attacks and in the resulting number of cases in proportion to the amount of milk consumed. In regions and families where large amounts were used, more cases occurred than where less was consumed. The disease showed in all families a preference for the members that used the largest amount of the milk in a raw state. Dr. Hart, in summarizing his results, makes the following timely statement, that it would be well for Americans as well as Englishmen to ponder upon: "Treat it how we may, there is death in the milk-pail and also in the milk, the one source being too often the fault of man, and the other the result of disease in the milch-cow. The whole subject of milk-supply is one of vast import in whatever light we look at it, and is none the less so by reason of the proven capability of milch-cows to give to the milk which they secrete a quality of infectiveness which carries disease and death in its train. These things being so beyond the region of dispute, the question arises, What is to be done with the view of safeguarding ourselves against recurrence of the evils attending our milk-trade?"

PUBLICITY OUR ONLY SOURCE OF PROTECTION

THERE can be no reasonable doubt that there exists in the United States a state of affairs similar to that described by Dr. Hart for Great Britain. Death lurks just as certainly in American milk-cans as in English ones. We are regularly hearing of epidemics of various contagious diseases occurring in different cities in our country, but no one seems to deem it a duty to find out their origin. We should respectfully commend this to our boards of health as a part of their function and one that promises as good or better results than school inspection. Every case of contagious disease reported to them is a foundation on which to work. If direct exposure has not occurred find out whence came the milk or ice cream that each patient used prior to his or her sickness. Ascertain the number of cases found upon the route of every milkman and ice cream vendor. Trace the milk back to its original source and there seek to discover the cause. If none can be found after one or two attempts the effort should not be given up as useless. Detectives are not always successful in running down criminals when on their trail, and the discovery of the source of contagion is very much like the discovery of a criminal. The men who attempt such work should be fully imbued with the spirit of the inductive method of investigation. Our present methods of milk-inspection are almost useless. The benefit that results is not at all commensurate with the cost. There is little or no protection to the public health derived therefrom. Chemistry is of but little aid to hygene in this direction. Even bacteriology is not capable of guarding the public properly against the danger that menaces us through milk. The money spent on this kind of inspection would do far more good if used in studying the management of dairies that supply milk to the region, and publishing reports of the same in the daily press. Expose dirty, careless dairymen and brand their milk-supplies so that every intending purchaser can tell the kind of place his milk comes from. Have the report accompany the supply, and prohibit the sale of all milk coming from farms or dairies that will not permit full and complete inspection. Have such reports tell whether or not the cows are healthy, the dairyman and his family free from contagious disease, the wells and streams used for washing the milk-cans and watering the cows free from typhoid bacilli, the general cleanliness and sanitary condition of the barns, sheds or other places where the cows are kept, and such other information as would be valuable knowledge for consumers to possess. Confiscate and destroy all infected milk, but pay the dairyman for it. The mixing of milk from various dairies should be forbidden except where careful inspection permits of the giving of a clean bill of entrance to the town or city. Nothing short of the honest, careful carrying out of some such plan as this can ever check the wholesale sowing of death and disease in the community. It is only because of our past ignorance of the source of epidemics that we have permitted such a state of things to go on unchecked and unchallenged. It is only because of our familiarity in the use of milk that we find it so difficult to conceive of its great danger. Had we been all living in powder magazines from time immemorial, in spite of numerous explosions and deaths, we would have found it difficult to realize much if any danger in such a life, since we would have known of no other. In early times men realized as imperfectly their danger from filthy homes in spite of plagues and pestilences coming upon them. They were not willing to believe that any connection existed between their filth and these scourges. Now we feel just as unwilling to believe in the great danger that lurks in improperly cared-for milk. It is a wonder that dairymen have not taken up the matter themselves and tried to improve matters. Physicians, pharmacists, dentists, plumbers and others have organized themselves as societies and had laws passed for the protection of the public from incompetence. The members of such societies have seen that protecting the public in this way indirectly aided themselves by checking ruinous competition. If the better class of dairymen would unite and demand that they be licensed after an examination regarding their knowledge of such sanitary measures as are needed for public safety, they could easily carry their point. Many of those who have secured such legislation had no such good case to carry to the legislature. There should be a large enough number of dairymen with sufficient intelligence to see the benefit to themselves and the community of such a move. If there is not, then the public should itself take the matter in hand and force a better state of affairs. Let medical men, therefore, begin the work of educating the public upon its great danger. Our boards of health, if they desire it, can do more than anyone else in this direction. Let them discover the particulars of milk epidemics, report them to the public and begin the work of placing a check on the danger. When public interest is once awakened in this matter, boards of health will find less trouble in securing appropriations of adequate size to carry on their work. Ignorance of danger makes legislators stingy in the disbursement of money for sanitation. Knowledge of danger will make them more liberal. Positive evidence of the existence of one milk-borne epidemic will do more to awaken them to a realization of their danger than a thousand sermons about tuberculous milk.

A distinct, permanent line of demarkation between scientific dairymen and ignorant pretenders can easily be fixed. There is here almost a wide-enough field for progressive men to work in, to produce soon a distinct profession. A complete knowledge of the composition and dangers of milk, a knowledge of its bacteriology, a knowledge of the scientific care of cows and such other scientific knowledge as would equip them for the proper performance of their duty to their fellow men would make a good foundation for such a profession. Such knowledge would be profoundly practical and lead to most admirable results. The present ignorance of many dairymen upon such subjects is to blame for all the mischief that is being done. Educate them and it will cease. Let the law refuse recognition to those not capable of passing an examination in subjects of these kinds. If this is done then only intelligent people will seek the profession.

AMONG THE EDITORS

THE ABUSE OF MEDICAL CHARITY

In an editorial last month we asserted that only in the discipline of public opinion could a remedy be found. If our County Medical Society is in earnest, it will bring pressure to bear upon the medical authorities of every institution equally to work in concert and in harmony to this end—the refusal to treat or to accept as free patients all who can be proved to be able to pay for such medical assistance. Hospitals and clinics cannot exist without doctors, no matter what the disposition of lay governors may be, and therefore the solution of the whole difficulty lies in the hands of the medical boards themselves if they will but unite sincerely and honesty to further this end. Human nature is the same everywhere, and all men naturally tend to justice; the only stumbling block to this tendency is self-interest. If, therefore, medical attendants at hospitals and clinics could feel assured that other institutions would not accept improper patients whom they had refused, and that other medical men would not accept the positions, with the loss of which they would probably be threatened on account of their action, they would undoubtedly unite as one man to put down this abuse. For, under such circumstances and with such a cause, all opposition would vanish.

We know of but one body which has the power to bring about this consensus of opinion and concerted action among the medical attendants of hospitals and clinics in this county. The Medical Society of the County of New York, by the disciplinary force of the public opinion which it possesses, can, if it will, bring about this result.

But, although this society has the power to discipline its members, and thus to control abuses in institutions under its jurisdiction, there is a greater and wider power, if not so immediate. A medical society can control its minorities, but a medical press can convert them. We, therefore, again urge our esteemed contemporaries throughout the country to take up this subject unitedly, and to condemn an outrage, which has made charity a harlot and a laughing-stock, and in all our large cities is demoralizing the rank and file of our profession. A portion of the medical press, we are glad to state, has begun this worthy crusade. We hope soon to hear universal and repeated editorial condemnation.

It must, indeed, be a serious matter, which has made the majority of our professional brethren cry out in desperation against the injustice of their fellows.—*Amer. Gyn. and Obst. Journal.*

THE MEDICINE HABIT

One of the most pernicious practices prevailing in this country, and, to a large extent, in all civilized countries, is the habit of medicine-taking. Many people are addicted to the habit of swallowing a drug of some sort for the relief of every physical discomfort which they may happen to experience, without any attempt to remove the cause of the disorder by correcting their faulty habits of life.

The man who does not sleep well at night, instead of finding the cause of his sleeplessness in an indigestible six-o'clock dinner and neglect to take the proper exercise out-of-doors, or some other violation of Nature's laws, swallows some sleep-inducing drug, as bromide, phenacetin, antikamnia, chloral, opium, or, perhaps, a toddy as a "night-cap," until he soon finds that he cannot sleep at all without some hypnotic. Likewise, the man who finds his stomach disordered and his digestion disturbed, instead of seeking to find the cause for the deranged function in the violation of the laws of dietetics—overeating, too rapid eating, unsuitable combinations of foodstuffs, too frequent meals, insufficient exercise, badly cooked and too highly seasoned foods, and similar causes—flies for relief to the drug-store, and doses himself with pepsin and other artificial digestive agents, until after a time his poor stomach becomes, to use the phrase of an eminent European physician, completely "pauperized."

The old system of treating sick men and women by the employment of drugs exclusively was well characterized by the late Dr. Jacob Bigelow, of Boston, as "artificial." It is very gratifying to note that this artificial and irrational method is rapidly giving place to more physiological and rational methods, which seek to effect the cure of the sick by a removal of causes, rather than by the antidoting of effects.—*Modern Medicine.*

CREDIT TO WHOM CREDIT IS DUE

In addition to its indulgence in what a local Chicago daily calls "insane sanitation," the New York Health Department seems to be going out of its way in arrogating to itself the credit for various reforms and improvements which it did not originate, and which were in force in Chicago long before New York "originated" them.

The first instance of this kind was the rules for the control of pulmonary tuberculosis, which were recently promulgated by the New York Health Department. In July, 1895, or more than a year and a half previous, the Chicago Department of Health issued a circular prepared by Assistant Commissioner Reilly, entitled "Restriction and Prevention of Consumption," in which stress was laid upon the fact that consumption is "catching," and the department advised that "consumptives, whether at home or abroad, should spit only into bits of cloth, or rags, or paper provided for the purpose, and that these should be burned before they get dry." It also offered to take charge of consumption-infected premises and make them safe for future occupancy. In this circular, detailed advice was also given to the consumptive, to the family of the consumptive, and to the public, as to the best means of preventing the infection.

Again, the New York Health Department claims priority in the use of fluid vaccine lymph, but this claim is not valid.

In June, 1895, vaccination by the Chicago department was absolutely suspended upon the representation of the assistant commissioner that the vaccine points in use were unreliable and frequently poisonous. After considerable search, a fluid vaccine lymph, put up in sealed glass tubes, was found free from pathogenic germs and uniformly efficient.

The Chicago Health Department was the first in the world, so far as known, to make this great improvement in vaccination, and to inaugurate, in the Jenner centennial year, a new era in the development of the most valuable agency in preventive medicine yet given to mankind.

The third claim of the New York Health Department to which we take exception is that in relation to medical inspection of schools. In New York, 150 inspectors are about to be detailed for this work in 1897. In Chicago, however, last September, at the beginning of the current school year, eight of the ten regular medical inspectors were assigned to school inspection service.

The last invalid claim of the New York Health Department to which we will direct attention is that of the serum diagnosis of typhoid fever. The New York authorities give all credit for this work to Widal, ignoring entirely the magnificent work done by Dr. Wyatt Johnston, of Montreal, in the practical application of the method.

In its first circular, Nov., 1896, the Chicago Health Department gives full credit to Dr. Johnston, to whose researches, it says, is due the fact that "bacteriological methods now seem likely to afford a rapid and satisfactory means of diagnosis in typhoid fever, which will compare not unfavorably in point of efficiency with the methods now so widely employed for the diagnosis of tuberculosis and diphtheria."—*The Medical Standard.*

THE OFFICE HOUR

A shrewd, capable, and eminently successful physician once said that his success was largely due to a motto, "Take care of your office hour and your office hour will take care of you." When the large amount of waste time in the average physician's routine, the hour's drive and the ten-minute call, is considered, one can readily appreciate the business importance of so regulating work as to reduce this waste to a minimum. Men have long ago learned that in commercial matters the only people worth dealing with are those whose business goes to them. The peddler or agent who comes to our house is, on the whole, an inconvenience, and his wares or his investments are proverbially defective or expensive. There are many patients physically unable to leave their homes; these must be visited without regard to preference or waste of time in transit. But when patients, physically able to go to the doctor's office, and, perhaps, even needing exercise, prefer to summon him to their homes, something is wrong.

If one intends to build up an office practice, he must perform his part of the implied contract and be on hand to keep his appointment, even if temporary advantage is promised from breaking it. Manifestly, however, a really urgent case must take precedence of one which will suffer only inconvenience from not finding the physician.

The office should be cheerful and wholesome. There should be a happy mean between the appearance, that of being a smoking-room and "den" for the physician, or a play-room for his children, and the worse extreme of emphasizing the horrors of operation and the unpleasant details of anatomy.—*Medical and Surgical Reporter.*

THROUGH BRITISH EYES

Dr. Robert T. Morris, of New York, commenting on the statement that the medical profession in this country is "viewed askance," etc., explains this lamentable state of things as follows:

"This is the fault of the British physicians themselves. What a lot of them are tardigradous toadies! On more than one occasion I have been engaged in conversation with some British physician who outranked most members of the nobility in true worth and usefulness; a prince or a duke has come into the room, and instantly my colleague's eyes would assume a distant, far-away look, and his knees would give way by catalysis. I have often felt like killing the poor thing to put him out of his misery. He was certain to be taken at his own estimate of his position. Men whom I had idealized and placed upon pedestals came down within easy reach of me at sight of some prince or duke who was of no earthly account in the progress of the world, and who could not even make a decent double shot on grouse. I presume that a nobleman instinctively feels like elevating such a toady by employing a method which endangers the integrity of the coccyx of the man who desires elevation."

It may be that we are "tardigradous toadies," though I am not quite sure what these fearful wild-fowl may be; but is the breed quite unknown in the Great Republic of the West? From the loving repetition of the words "prince or duke," one almost "feels like" hinting that Dr. Robert T. Morris is not altogether displeased to have it known that he was in such aristocratic society. It is to be hoped that he expressly limits the manifestation of the catalytic phenomena which he observed to the appearance of a "prince or duke." It is not to be supposed that he did not see plenty of the lower orders of the nobility; but perhaps the knees of even a "tardigradous toady" did not give way at the sight of a mere marquis.—*The Practitioner.*

A HEALTH-GIVING AGENT

Among the many causes that have been brought forward to explain the admitted decrease in the total amount of medical practice, little attention has been paid to the innovation that has come into very general use within a few years, and that is the bicycle. The medical journals have discussed freely the pros and cons of bicycle-riding, with the result that professional sentiment has shown itself strongly in favor of this new form of exercise; there could never be any question that riding a wheel would be a good thing for the vast majority of men, but the resemblance between the action of a wheel and that of a sewing-machine has caused some doubt about the matter in the case of women, and medical practitioners have in general been somewhat cautious in their advice when consulted by women on the question of bicycle-riding.

The wheel has now been in general use by both sexes for so long a time that any decidedly injurious effect upon women would infallibly have been noted and reported. The particular bad effect looked for in women who ride is some disturbance of the pelvic organs, but there is no testimony that any such result has been observed, and for women who have no uterine displacement nor inflammatory disturbance of the womb or its adnexæ, there is really no reason why the wheel should be more harmful than it is for men. But given a case of displacement that deserves to be called pathological, particularly if the womb be also enlarged, or a case of chronic inflammation of the tubes, ovaries or other structures contained within the pelvis, and it might well happen that the exercise of bicycling should be harmful.

On the other hand, there are those who maintain that pelvic disturbances in women are an indication for the use of the wheel; that the circulation in the diseased parts is quickened by the exercise, and that the result is not an increased congestion with aggravation of the existing malady, but an improved nutrition, a greatly increased absorbtion of morbid products, and an accelerated return of hypertrophied organs to their natural dimensions. The prudent physician will, no doubt, distrust claims that appear to him to be extravagant, and for patients with pelvic trouble will advise that it be used, if at all, with great caution, that it may be abandoned should there be signs that it was proving to be injurious.—*Northern Lancet.*

BACTERIOLOGY AND THE COUNTRY PHYSICIAN

There is little danger of the country physician or the city physician overdoing bacteriological researches. Nothing would advance cure, diagnosis, prophylaxis and public sanitation so thoroughly as to put every practitioner in the country through a two years' course of bacterial pathology. As a matter of fact, so little is known of it that there is little belief in it. Let a physician become as familiar with the life history of ten pathogenic organisms as the farmer is with as many domestic plants and animals, and a new light will burst in on his clouded vision. At least he will hold in due respect the innocent-looking test tubes, the contents of any one of which, inoculating his system, will produce certain disease and death. He will at least find himself in the docile and teachable position of an eminent surgeon of this city who, after taking a trip among the railroad hospitals of the Southwestern States in the early days of antisepsis, and witnessing the results of antiseptic surgery, attended a meeting of the Marion County Medical Society, where skepticism and even opposition to antiseptic methods was rife. He listened to the argument—thigh and shoulder amputations at the City Hospital; bandages not removed for ten days; no pus and no fever; patients discharged in three weeks as against three months by the old method. He heard the banter and the persiflage—the cases that did "just as well."

All knew that very recently two eminent women of the city had died of puerperal septicemia under the care of two eminent physicians of the old regime, as also were the nurses—the death skeleton stalking and grinning in their shadow as in Holbein's pictures of the Dance of Death. Leaning forward, with both hands on the chancel rail, speaking with the emotion of faith and conviction, and falling naturally into the Scripture phrase which lends strength, beauty, and impressiveness to English speech, Dr. Joseph Marsee said: "Brethren, I would not know a microbe if I were to meet one coming down the street; but, thanks be to God, I do know that whereas I was once blind, I now see." From that day there was a change in the aspect of the society toward the bacterial pathology in its relations to both medicine, mid-wifery and surgery.—*Indiana Medical Journal.*

THE PRIZES IN MEDICINE

Physicians should be very slow about offering words of encouragement to young men and young women who enter upon a study of medicine, showing them the required four long years of arduous study, and then of not less than four years of time before it will be possible to gain a living from practice, during which period they must live as though possessed of a small gold mine or an oil-well. Eight years or more to a living should deter many strong hearts from beginning a course that involves labor, sacrifice, and a large outlay of immediate cash.

The time has passed by and is away out of sight when it is possible for men and women to start with nothing but their hands and wits, and therewith to work themselves through college and into an immediate living business. It is not the fault of the willing hands and ambitious brains, but it is because conditions and possibilities have all changed.

Furthermore, those who have married and then concluded to enter upon the study of medicine should be broadly and emphatically discouraged from making an attempt to enter the medical profession. Four years of study and four years of waiting while burdened with family cares are altogether too much for any man or woman to undertake; besides, it is entirely too large a fraction of the years in which it is appointed for men to live to abstract for this one purpose, in which future success is not only likely to be very moderate, but extremely problematical.

The prizes in medicine are extremely limited in size and few in number. Some are gilded, glittering baubles, and represent untold debts, hard work, sleepless nights, and endless anxiety, while a very small number indeed, stand for that which is real and enduring.—*Cincinnati Lancet-Clinic.*

THE MEDICAL FAKE

Not very long since we were sitting in a "cable car," behind an evening paper, when a prominent surgeon of this city entered in company with a prominent merchant. We paid no particular attention to them, continuing our reading, until the P. S. said: "Yes, I have operated on over twenty cases this month and all recovered." P. M.: "Very dangerous operation, is it not, doctor?" P. S.: "O, yes, there are very few surgeons who would be allowed to undertake it. There are three or four others here who do this operation, but from some cause or other they have very poor success, and they are good surgeons, too." At this point the prominent P. S. opened his "grip" and took out a lot of pathological specimens which he exhibited to the P. M. (others in the car were not barred from looking and listening), explaining all the bloody details of the operations. This P. S. is strongly opposed to advertising and believes in the code from "kiver to kiver."—*Langsdale's Lancet.*

HEREDITY OF TUBERCULOSIS

We do not think the proposition is true that few men accept the theory of heredity of tuberculosis. We think the truer proposition would be that the theory of the heredity of tuberculosis is not given such absolute weight as it formerly had in general or in insurance medicine, and yet no man, we take it, rejects the idea of heredity absolutely in tuberculosis or in any other so-called hereditary disease. Take the hereditary influence of alcoholism for instance. We observe examples in abundance where the children of inebriates are the subjects of nervous conditions and are unhealthy in many ways. We do not think that it is denied that insanity is often inherited or that it can be transmitted by inheritance. We believe that while it has not been proven in many instances by direct occular demonstration by post-mortem upon fetuses or new-born children that tuberculosis has been transmitted as tuberculosis, by the presence of the bacillus tuberculosis, yet several instances are recorded of such actual presence of the bacillus in the fetus or the newly born. We do know, and it is a well-accepted theory, that the tendency to tuberculosis is inherited; that is, the body is so constituted, or is in such a condition in very many instances, that it is very liable to become consumptive, provided the cause of such disease is brought in contact with it. We know also that this state of things is recognized to exist in individuals whose families are consumptive oftener than in those whose families are non-consumptive. Whether this is a coincidence or not we will not attempt to decide. —*Medical Examiner.*

OPIUM IN PEDIATRIC PRACTICE

It is common belief that although opium is one of the most useful of drugs in the diseases of adults, it is dangerous and not adapted to the needs of sick children. That it is an unsafe drug when administered to infants without discrimination, there can be no doubt. When given in proper doses and with knowledge of its therapeutic properties it is safe and satisfactory. Children are especially susceptible to the action of opium and its preparations, and more discrimination is necessary in its administration to them than to adults. This fact, however, is not sufficient reason for its total abandonment in pediatric practice. The physician who takes that course deprives himself of one of his most potent weapons. It should rather lead to a more careful study of its physiological actions and therapeutic applications. Such study of this and of other old and tried remedies, would lead to far more rational prescribing with better results than does the present mad rush after new and untried remedies.

A drug acting in such varied ways cannot be used thoughtlessly without untoward results, but with intelligence and discriminating care it becomes a remedy powerful for good.—*Archives of Pediatics.*

EFFICACY OF DIPHTHERIA ANTITOXIN

The reader of current medical literature may have observed that most of the arguments used in the controversy are based upon studies of statistics. We regret that so many practitioners have been influenced now for and now against the remedy, according to the showing of the statistical table they happen to have read last. It has been amusing at times to see a writer inveigh against antitoxin, denouncing the statistics in its favor as fraudulent or deceptive, probably quoting that old saying about "three kinds of lies, viz., lies, d——n lies, and statistics," and then to see him proceed to clinch his argument by a rearrangement, a new classification of those same statistics to make them prove his side correct. We hold with Furneux Jordan ("Surgical Enquiries," p. 167), that "Statistical enquiry in the inexact sciences has misled as often as it has led. There are more avenues for errors to creep into statistics than there are avenues for errors to creep into the opinions of trained observers. If six competent surgeons tell me one thing, and the statistics of six hundred hospitals tell me another, I believe the six surgeons." We have one piece of advice for the opponents of diphtheria antitoxin and for those who, while not opposing, remain unconvinced by argument and decline to use it. It is this—just try it. First read some reports of cases by competent observers, and then, lest you doubt the evidence of others—*just try it for yourself.* You will see results such as you never saw under the use of other remedies. If you do not see them, you have lost our confidence in your powers of observation, for we have seen them for ourselves, in some dozens of cases which, if time ever permits, shall be reported. But don't take any man's word for it, nor trust anyone's statistics; study cases and believe your own eyes.—*Cleveland Medical Gazette.*

ORIGINAL PAPER

WIDAL'S TEST FOR TYPHOID GERMS APPLIED TO SUSPECTED WATER

By WILLIAM C. ALPERS and BENJAMIN L. MURRAY

AT the end of March a notice appeared in the New York daily papers that the outbreak of typhoid fever in some parts of the city of Albany and vicinity was attributed to the presence of the typhoid bacillus in the drinking-water of Albany, which is taken from the Hudson river at a place near the mouth of the Mohawk river. Wishing to make a practical test of their method of applying Widal's test to the detection of Eberth's germs in drinking-water, as described in the MEDICO-SURGICAL BULLETIN of March 25, the writers procured six samples of the suspected water, which were furnished them through the kindness of Messrs. H. J. Grose, A. B. Huested, and Dalrymple & Warner, druggists, at Albany, N. Y. A request to the secretary of the Albany Board of Health for information and samples of suspected water remained unanswered.

TABULATED REPORT.

Sample of Water.	Bouillon Tube.	Suspected Water, number of c.c.	Number of Drops of Acid.	Hours of Incubation.	Result of Incubation.	Tubes Selected for Agar Plates.	Incubation of Agar Plates.	Inoculation of Tubes.	Number of Tube.	Widal's Test Reaction on Fish-Bouillon Tubes.
1	1	1	5	40	No visible growth		All agar plates were incubated at 37½° C. for 24 hours, or until suitable growth for "fish" developed.	Four "fish" were taken from each selected agar plate, inoculated into bouillon tubes and incubated at 37½°C. for 24 hrs.	E	Germs abundant and very active. No reaction.
1	2	5	6	40	Some growth				F	
1	3	10	7	40	Plenty of growth	Selected			G	
1	4	5	0	40	Heavy growth, Settling.				H	
2	5	1	5	40	No visible growth				T	Gives reaction.
2	6	5	6	40	Some growth	Selected			U	Not tried.
2	7	10	7	40	Broken				V	Not tried.
2	8	5	0	40	Very heavy growth				W	Gives reaction.
3	9	1	5	40	No visible growth				H	Not tried.
3	10	5	6	40	Some growth	Selected			I	Not tried.
3	11	10	7	40	Small growth				J	Undecided.
3	12	5	0	40	Heavy growth				K	Gives reaction.
Check	13	0	0	40	Very slight growth				....	
4	14	1	5	40	Broken				A	Give reaction promptly.
4	15	5	6	40	Small growth	Selected.			B	
4	16	10	7	40	No visible growth				C	
4	17	5	0	40	Very heavy growth				D	
5	18	1	5	40	Small growth				P	Doubtful in first mount Give reaction in second mount.
5	19	5	6	40	Small growth	Selected			Q	
5	20	10	7	40	No visible growth				R	Growth not good.
5	21	5	0	40	Heavy growth				S	
Check	22	0	5	48	No growth.				....	
6	23	1	Error. Excess	24	Very slight growth				X	Give reaction.
6	24	5	6	24	Slight growth				Y	
6	25	10	7	24	Considerable growth	Selected			Z	
6	26	5	0	24	Very heavy growth				β	
Check	27	0	0	10 days	No growth				....	

The six samples of water were labelled as follows:

No. 1. Water taken from Hudson river, between Troy and Albany;

No. 2. Water taken from Hudson river at the intake of pumping station;

No. 3. Water taken from Tivoli lake, distributing reservoir;

No. 4. Water taken from a hydrant in the city of Albany;

No. 5. Water from Hudson river, taken just above intake of Albany water-supply;

No. 6. Water taken from a hydrant in the city of Albany after filtration through a "mechanical filter."

No. 1 contained a small sediment; Nos. 4 and 5 contained some more; Nos. 2 and 3 still more; No. 6 was clear.

All the waters were attended to immediately upon their reception, thus insuring that no further germ-growth arose.

The general method of examination was

exactly as outlined in the BULLETIN of March 25, except that "suspected waters" were used in place of "inoculated waters."

Twenty-seven tubes of sterile bouillon were prepared, and to each one was added a certain amount (0 to 7 drops) of carbolic-hydrochloric acid solution and a certain amount (1 to 10 cubic ctm.) of suspected water.

Tubes for "checks" were also prepared, containing sterile bouillon only, or acidified sterile bouillon.

These inoculated tubes were incubated at a temperature of 37½° C., and upon each tube a note was made as to the appearance of the bouillon and the amount of growth. The time of incubation should have been twenty-four hours, but in most cases it was longer, as will be seen by the table below.

There were four bouillon-tubes for each sample of water, one of which was unacidified, to prove the presence of a variety of germs in the water. From the other three (acidified) tubes one was selected for the dilution agar-plates, because of the facility presented for inoculation of agar, and of the amount of germ-growth present.

The agar-plates, thus prepared, were incubated about twenty-four hours. In every case growth was apparent at the end of that time. In some cases incubation was continued until suitable growth for "fishing" developed. The plates offering the most advantages were then examined under low powers for different forms of colonies, and a new series of sterile bouillon tubes inoculated from them by means of "fishing." For every sample of water four "fish" were taken, numbered, and a note of the shape, color, etc., of colony from which taken was made.

These bouillon-tubes were again inoculated at 37½° C. for twenty-four hours. After this time, Widal's reaction was tried on each of the "fish" in this manner:

Each of the tubes of one sample of water was examined separately; if the presence of Eberth bacillus was demonstrated in one or two tubes, further trials for that particular set became unnecessary; if the reaction did not take place in the first tube of one sample, all four were examined.

The hanging-drop culture was made, examined at once (to be sure the germs were present and in lively motion), then examined at intervals of an hour for four hours, or even after standing overnight. The blood used was furnished through the kindness of Dr. Clarke, of Roosevelt Hospital, and was freshly drawn from a typhoid fever convalescent.

From these experiments it appears that waters Nos. 2, 3, 4, 5, and 6 contain germs giving Widal's reaction, while water No. 1 does not.

It is worthy to note that, for reasons stated above, the final results were not reached as quickly as is possible. In some cases material was purposely withheld from the incubator in order to retard germ-growth, so that proper attention could be given it.

As further tests, the "Indol" test and the "Glucose-Agar Shake Tube" test for the Eberth germ were applied on the "fish-bouillon" tubes with confirmatory results, except with water No. 4, where no confirmation could be obtained.

Whether on the strength of these investigations the presence of the typhoid bacillus in the Hudson river near Albany, and in the drinking water of Albany, is definitely established, depends on the reliability of Widal's test.

Evidence for the correctness of this test is, however, daily accumulating, so that there seems to be no fair ground for doubt.

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Bacteriological Treatment of Malignant Tumors

As the outcome of rather extended clinical observation in the surgical clinic of the University of Heidelberg, of the result secured in the treatment of inoperable malignant neoplasms with toxins, or with the antidotal serum of the streptococcus pyogenes and the bacillus prodigiosus, Petersen (*Archiv. f. klin. Chir.*, B. LIII, H. 1, p. 184; *Med. News*, 1247) has arrived at the conclusion that, in the treatment of carcinomata, either of the methods is entirely without promise, while in the treatment of sarcomata, success is only exceptional. Against this slight and dubious advantage must be placed the dangers of intoxication, as well as those of stimulation of the new growth to increased activity.

SELECTED PAPER

THE AUTO-TOXIC ORIGIN OF EPILEPSY

By J. NELSON TEETER, M.D.,
Assistant Physician Utica State Hospital

WE do not see epilepsy at birth, and not for years afterward may it show itself. It is the predisposition which is transmitted, and not then until some exciting cause presents itself to act upon the susceptible nerve cells do we have the manifestation of faulty inhibition, development, nutrition or whatever the condition may be. The child of epileptic parentage may have an attack of intestinal trouble (perhaps putrefactive, therefore toxic) followed by a convulsion. The nervous centers have shown themselves susceptible to the intestinal irritant and it is reasonable to suppose that upon a subsequent and similar irritation another convulsion will occur. The predisposition, which might be called the epileptic habit, becomes confirmed when the inhibiting influence governing the action of the nerve cells is lost, this inhibiting influence being paralyzed by the intoxicating agent. Gowers says: "Epilepsy is a disease because the tendency to what we call 'discharge' is increased each time the tendency has its effect." Thus the epileptic habit is established.

J. S. Bristowe reports cases of epileptiform convulsions apparently produced by extreme slowness of the pulse. In his cases the pulse during the intervals between the attacks was as slow as 20 to 30 beats per minute, and after the attacks reached 70 to 120 beats to the minute. It would seem to me that in these cases the extreme slowness of the heart, with the consequent retarded circulation in the veins and lymphatics, allowed the accumulation of toxic principles in the brain, giving rise to an irritation which resulted in convulsive manifestations. Dr. T. Oliver, in reporting a case of "Epilepsy in a Puerpera with Hyperpyrexia," speaks of the imperfect renal action allowing the retention of animal poisons in the blood, "there being no reason why the disordered blood of pregnancy, with its altered arterial tension and plethora should not so influence the cerebral centers as to lead to the nervous explosion upon which the fit depends." In this patient no convulsions occurred until pregnancy was established, and the author excluded kidney disease or any reflex difficulty.

It has been shown in extended observations by Herter and Smith that intestinal putrefactive processes are distinctly related to the epileptic paroxysm. They have demonstrated that intestinal putrefaction is indicated by the amount of sulphuric acid in ethereal combination found in the urine. The degree of intestinal putrefaction appeared to influence the seizures in part of of the cases cited, being less during the intervals and increasing up to and after the attacks. Haig claims a relation between uric acid and epilepsy, namely, that grand mal is caused by an excess of uric acid in the blood, while there is a decrease in the amount found in the urine before, and an excess at the time of the paroxysm.

It thus appears that the subject of auto-intoxication in epilepsy as a factor in its etiology has occupied the minds of many acute observers and is the path in which we should direct our work until the subject is at least exhausted. The excretory products found in the urine and feces have received most attention and been thoroughly investigated, except the substances found in the urine by Bouchard and which he designates "extractive matters," one of which upon injection into animals produces convulsions, another lowers the temperature, and, lastly, one contracts the pupil. To quote from Bouchard: "One kilogramme of man eliminating in twenty-four hours a quantity of urine capable of killing 461 gme. of animal, the proportional part of the mineral matter in this toxicity may be indicated as follows: Potass. kills 217 gme.; soda, 30 gme.; calcium, 10 gme.; magnesia, 7 gme. The whole of the mineral matter kills 264 gme. On the other side, urea kills 63 gme. There remains to be destroyed 134 gme.

"We may say that one kilogramme of man eliminates in twenty-four hours oramination of the blood on the day following showed .094 percentage of urea. No convulsions occurred before the examination of the 7th, and the percentage of urea fell to .0345 gme. On the 9th, patient had three fits and the blood drawn between the attacks showed in this instance only the normal average, the percentage being .024 gme. On the 17th the blood taken directly after the fit showed .0709 gme. of urea per 100 gme. of blood. The average amount of urea found in 100 gme. of blood for the four examinations we therefore find to be .055 gme., which will be seen to exceed the normal.

In case No. IV, the first examination gave a result of less than normal, the second a considerable increase, and the third, which was performed ten minutes after the convulsion occurred, reached the remarkable average of .2654 gme. in percentage amount. These three examinations showed a continued increase up to and just following an epileptic paroxysm. The next examination, made five days later, and seven hours after a convulsion, showed .046 gme. of urea, a marked decrease over the previous result. An examination on the 13th, and after a fit, showed a still further decrease, when the amount again began to rise, and on August 16th reached .0942 gme. in percentage amount following a fit. In this case it will readily be seen how greatly the amount of urea varies and how inconstant are the results as compared with the epileptic paroxysm. In the control case it will be noted that the urea held to or was below the normal average.

The average amount of urea passed by the urine in case No. III during the months of July and August was 9. 45 gme. per 24 hours; less than one-third the normal amount. An increase in the amount of urea per cubic centimeter before the convulsions occurred was noted and corroborated the results recorded in the writer's previous paper spoken of in the first part of this article. In case IV the average amount of urea excreted by the kidneys was 11.64 gme. per 24 hours—about one-third the normal amount of 33.19 gme. A similar increase in amount of urea per cubic centimeter before the fit occurred was noted in this case.

Conclusions: As before quoted, Bouchard states that of the 461 gme. of animal killed by the amount of urine excreted by one kilogramme of man in 24 hours, urea killed only 63 gme., from which we must infer that urea represents only a small part of the total toxicity of the urine. My results, though meagre, would seem to corroborate this view, for the variability of the amounts of urea found, even when examinations were made under apparently similar physical conditions, would seem to prevent the possibility of placing much importance upon this excretory product as a cause of epileptic convulsions. I do not mean to eliminate it entirely from the list of toxic causes, for it is probable that auto-intoxication is not due to any one toxic principle alone, but to the action of a combination of all the poisons.

We can only conclude that, firstly, there is an average increase in the amount of urea found in the blood serum of cases of idiopathic epilepsy above that of normal man; secondly, there seems to be but little relation between the amount of urea found and the epileptic paroxysm, as in some cases we find an increase directly after a fit, in others a diminution. The increase of urea found in the urine after a convulsion must be accounted for in other ways, possibly by the great muscular exertion during the fit, or by the diuretic action of the urea itself as it accumulates in the blood. This would seem to be proven by the blood examination, as the amount of urea found was seen to gradually decrease for some time after the epileptic paroxysm occurred. Probably a more fruitful field of research in this direction will be an examination of the toxicity of the blood serum before, after and during the intervals of epileptic convulsions, shown by injection into the lower animals.—*Alienist and Neurologist* (*State Hospitals Bulletin*).

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A writer in the *Medical and Surgical Reporter* advises the use of phytolacca (poke-root), both locally and internally in quinsy after the acute stage is past. During the acute stage he prefers sodium salicylate.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

JOSEPH P. WINSTON, M.D., GEORGE E. WEST, M.D.,
W. J. ROBINSON, M.D., L. SCHÖNEY, M.D.

Hysterical Aphonia

Arslau (*Gazz. degli Osped.*, Jan. 10, 1897) has employed bromide of ethyl with success in the treatment of five cases of hysterical aphonia occurring in women. Four of the cases presented disease of the naso-pharynx. In three the exciting factor was attributed to influenza. The patients were rapidly anesthetized with 10-grn. doses of the drug, and as soon as they were semi-insensible, suggestion was made that they should shout loudly their name, count numbers, etc. The results obtained were satisfactory.

Etiology of Graves's Disease

Dr. R. G. Curtin, in *International Clinics* (Vol. IV, Series VI, p. 78, 1897), after discussing the above subject, concludes:

1. Graves's disease is hereditary.
2. The marriage of those having such an inheritance should be discouraged.
3. A person who is known to have the inheritance should reside at an elevation of more than five hundred feet.
4. They should avoid great excitement or any highly exciting occupation.
5. They should not reside in a limestone region.
6. They should not reside in a malarial district.
7. It would be wiser not to select a home in a locality where the disease is common, no matter where the locality may be.
8. They should be careful to avoid all those things that are likely to produce anemia.
9. They should avoid excessive study, any prolonged mental or sexual strain, or anything which can bring on a neurasthenic condition.

Intoxication by Antipyrin

Dalché, in the *Bul. gén. de Thér.* (No. 1, pp. 29-31, 1897), cites a new case of ulcero-membranous stomatitis in a man of 65 years who, after having been used to taking antipyrin for some time, suddenly showed aphthous stomatitis after a dose of 1 gme. One month later, in an attack of la grippe, he again took a dose of the same size, and immediately, as before, the mouth swelled, the gums bled, and several ulcers appeared on the tongue, lips and cheek. Nearly a month later he took half a gramme before dinner, and before the meal was over felt an acute coryza coming on, which developed rapidly, swelled his mouth again, and next day caused insupportable itching of the thorax, abdomen and scrotum, followed a few days later by purpuric spots which gradually disappeared.

For four years he had gone to Vichy every summer on account of hepatic colic. Six months previously, owing to family troubles, his health had begun to be poor. In one examination of urine in August, 20 gme. of sugar per litre were found,—no albumen. The glycosuria disappeared. When his attacks came on there was no sugar in the urine, nor any albumen, but excess of nitrates and phosphates. On Dec. 7, 1896, there was no albumen, urate of soda in excess, urea and phosphoric acid normal, but there were 3¼ gme. of glucose per litre. There were no restless symptoms of diabetes, no polydypsia, no polyphagia, etc., reflexes were normal, and there was no heart-trouble.

The patient, fat, arthritic, hemorrhoidal, affected with biliary lithiasis, on sudden grief presents transitory glycosuria, then azoturia and phosphaturia. Then follows the intolerance of antipyrin. Renal insufficiency does not suffice to explain it: the etiology is complex—a nervous influence impresses itself on a subject of rheumatic diathesis.

Treatment of Enteric Fever With Cold Tub-Baths

Dr. W. G. Thompson, *International Clinics* (Vol. IV, Series VI, p. 11, 1897), summarizes his views on this subject as follows:

1. Cold tub-bathing does not ordinarily shorten the duration of enteric fever.
2. It does not prevent the occurrence of at least as many relapses as may take place without it.
3. It does not prevent the occurrence of many of the ordinary complications of the disease, most of which, however, are much less severe than those that are often present without it.
4. It does not in any manner preclude the simultaneous use of the intestinal antiseptic or any other recognized method of treatment.
5. It may be safely employed in all cases excepting those actually having intestinal hemorrhage or severe pneumonia at the time, not even early pregnancy or intercurrent menstruation being contraindications for its use.
6. It is a rational plan of treatment directed towards the support of the nervous system by the double stimulus of cutaneous

friction and shock of sudden cold, and as such it is particularly useful in preventing those symptoms which result from the overwhelming of the nervous system by the toxin of the disease. Furthermore, it so regulates the metabolic processes of the body as to increase its resistance to the inroads of fever, and less alcoholic stimulation is required than is often given in other methods of the treatment.

7. When the patients come under the tubbing treatment within the first week of illness, it offers the almost certain prospect of the disease running a mild course, free from the graver complications common under expectant and other treatment, and it reduces the mortality of many of the severer cases by approximately one-half.

The most striking features which are so often commented upon by those visiting an enteric-fever ward where a series of patients are under the tubbing treatment, are their remarkably good facies, mental condition, and nutrition. Surely it is a decided gain to be able to accomplish these results for the patient, if nothing more, in so complex and protracted a disease, and when, in addition, a substantial reduction in mortality is obtainable, the benefits must outweigh the objections and disagreeable features, at least until some better method, perhaps an ideal intestinal antiseptic or an immunizing serum is discovered.

Rheumatic Carditis of Childhood

In *Annals of Gyn. and Ped.*, Vol. X, pp. 249-50, the views of Dr. Sturges, of London, are given. The characters of the child's articular rheumatism are slight fever, joint affection, indistinct and varying, and absence of prostration. Recurrent attacks are certain to cripple the heart. The signs are blowing murmur, thrill, and change in the heart's size and shape. Pericardial friction is its earliest sign. There is apt to be complete recovery from the carditis of a first rheumatic attack. A pericardial friction-sound with articular rheumatism implies endocarditis as well as pericarditis. Such friction is almost certain to be heard at some time in the course of a rheumatic attack. In fatal cases it is the rule to find adhesions, and also to hear exocardial rubbing, often till death.

Post-Scarlatinal Nephritis

Le Jourl. de Cliniq. et de Therap. inf. (No. 1, pp. 15, 16, 1897) contains a review by Kontrebinsky of a contribution to *Dietskaja Méd.* (No. 6, 1896) valuable for its rational therapeutics. The generally admitted pathogenesis of post-scarlatinal nephritis, being auto-infection from the scarlatinal virus whose toxic products can no longer be eliminated by the diseased kidneys, the chief aim should be to prevent the retention of these products by the organism, in two ways:

1. By combating the nephritis itself;
2. By heightening the excretory function of the skin and the intestines, or supplementing them by suitable means.

To fulfil the first indication, i. e., to lessen the formation and spread of the toxins of the organism, the most efficacious means are:

(*a*) More or less absolute milk diet, according to the gravity of the case, combined with hydrocarbons. Aufrecht, in treating nephritics by milk and hydrocarbons alone, has obtained excellent results. He proscribes absolutely meat and eggs, though the latter are recommended by some authors.

(*b*) Rest in bed for three weeks at least.

(*c*) Alkaline waters, Vichy particularly.

(*d*) Pure air, constantly changed.

The second indication is met by giving diaphoretics and purgatives and using other means to heighten the activity of skin and bowels for the elimination of the toxins, thus relieving the kidneys.

(*a*) According to Soroloff, from the beginning of scarlatina cutaneous respiration is greatly diminished, and does so increasingly in albuminuria. As soon as the albuminuria disappears, cutaneous perspiration also increases. To aid in this increase we may have recourse to warm baths and hot compresses. The air of the room should be uniformly warm at 35° C. (95° F.) for fifteen to twenty minutes at a time.

(*b*) As purgatives, enemata of warm water and infusion of senna. Colomel is very harmful, and is to be avoided.

"Schott Method" of Gymnastics in Cardiac Diseases

Drs. S. Solis-Cohen and Harlotte West read a paper on this subject before the Philadelphia County Medical Society, January 27, 1897.

This treatment, say the authors, is a portion of the so-called Nauheim treatment of cardiac disease, which was inaugurated some twenty years ago by Drs. August and Theodor Schott.

The treatment carried out at Nauheim is directed toward the relief of the damaged heart, in cases of dilatation or broken compensation associated with valvular lesion, by action upon the peripheral vessels and blood-spaces; partly through the effect of thermal, saline and carbonated baths, and partly by a special system of gentle muscular exercise. The baths are an important but not an essential portion of the treatment. In some instances the baths alone are said to have been successful.

The method of exercise is called by Dr. Schott—resistance-gymnastics. "Swedish movements" are resistance-exercises too; but this system is differently carried out. "Gently-resisted movements" would, perhaps, convey the idea better. The patient makes very slight efforts with various muscles, and these are resisted by the operator very gently. As the treatment progresses the resistance is increased, calling upon the patient to put forth greater exertion. With the author's patients only twenty minutes exercise has thus far been attempted.

The exertion should be small and the patient should be loosely clothed and told to breathe quickly. The following rules are laid down:

1. Each movement is to be performed slowly and evenly, that is, at a uniform rate.

2. No movement is to be repeated twice in succession in the same limb or group of muscles.

3. Each single or combined movement is to be followed by an interval of rest.

4. The movements are not allowed to accelerate the patient's breathing, and the operator must watch the face for the slightest indications of (*a*) dilation of the alae nasi; (*b*) drawing of the corners of the mouth; (*c*) duskiness or pallor of the cheeks and lips; (*d*) yawning; (*e*) sweating; and (*f*) palpitation.

5. The appearance of any of the above should be a signal for the interruption of the process; the limb or part being allowed to subside in a state of rest.

6. The patient must be directed to breathe regularly and uninterruptedly, and should he find any difficulty in doing so, or if he show a tendency to hold his breath, he must be instructed to continue counting in a whisper during the progress of each movement.

7. No limb or portion of the body of the patient is to be so constricted as to check the flow of blood.

The exercises consist in motion with the limbs, hands, feet and trunk; and they are so devised as to call into operation, according to a definite order and succession, nearly every voluntary muscle and system of muscles in the body.

The following is the list of exercises:

1. Arms extended in front of body on a level with shoulder, hands meeting; arms carried out until in line and brought back to original position.

2. Arms hanging at sides, palms forward; arms flexed at elbow until tips of fingers touch shoulder, back to original position; one arm only moved at a time.

3. Arms down, palms forward, arms carried outwards and upwards until thumbs meet overhead; back to original position.

4. Hands in front of abdomen, fingers flexed so that second phalanges touch those of opposite hands; arms raised until hands rest on top of head; back to original position.

5. Arms down, palms against thighs, arms raised in parallel planes as high as possible; back to original position.

6. Trunk flexed on hips; return to original position.

7. Trunk rotated to left—to right; return to original position.

8. Trunk flexed laterally.

9. As No. 1, but fists clenched.

10. As No. 2, but fists clenched.

11. Arms down, palms against thighs, each in turn raised forwards and upwards until arm is alongside of ear, then turned outward; arm descends backward.

12. Arms down, palms to thighs, both together moved backwards in parallel planes as far as possible without bending the trunk forward.

13. Thighs in turn flexed on trunk, opposite hand resting on chair.

14. Lower extremities in turn extended fully, and bent on trunk forwards and backwards to extreme limits of movements, opposite hand resting on chair.

15. Legs in turn flexed on thigh, both on chair.

16. Feet together, lower extremities in turn abducted so far as possible and brought back to original position, opposite hand on chair.

17. The arms extended horizontally outward, are rotated from the shoulder-joint to the extreme limits forward and backward.

18. The hands in turn are extended and flexed on the forearm to extreme limits and brought back in line with arm.

19. The feet in turn are flexed and extended to extreme limits and then brought back to their natural position.

The duration of the exercises is from twenty minutes to an hour and a half, an hour being the average at Nauheim even in the beginning. The following are the results stated to be obtained by the baths and exercises at Nauheim:

(1) Diminution in the frequency of the pulse, with increase in its force and fulness; (2) Contraction of the heart, as shown by diminution of the area of cardiac dulness and recession of the apex-beat upward and toward the median line. (3) Slower and deeper breathing with a sense of lightness and relief in the chest. (4) A better color of

the lips and improved facial aspect; and, (5) when the organ has been congested, a marked diminution in the size of the liver. Furthermore, after a few days of systematic administration of the exercises, there is usually observed marked, and often long-maintained diuresis.

On the Transmission of Scarlet Fever by Means of Letters

Grasset publishes in the *Ann. Hygiene publique.*, XXXIV, p. 143, a case of direct contagion transmitted by means of a letter. The patient resided in an out-of-the-way place, where there had been no scarlet fever for years, and on the receipt of a letter from an infected house was taken ill after the regulation time for infection. The whole transaction is carefully traced, and the chain of evidence is complete.

An Unusual Case of Rheumatism

Dr. Max Staller, of Philadelphia, Pa., reports the following interesting case to the AMERICAN MEDICO-SURGICAL BULLETIN: The patient, Mr. N. P., age 25, single, had not been sick since having an attack of scarlet fever when 5 years old. All the members of the patient's family had a rheumatic taint.

A physical examination revealed a forcible apex-beat, noted downward, and to the left, slight bulging of precordial region and area of cardiac dulness increased to right and left. On auscultation, a systolic murmur was found, with the maximum intensity at the apex transmitted to the left axilla and the angle of the scapula. The temperature was 104 F.; the pulse 120, and very irregular; the respiration 36, and one knee-joint swollen and very painful.

Fifteen grn. of sodium salicylate were ordered every two hours, and 1/30 grn. of strychnia four times a day.

Four hours later both knees and ankles were swollen and painful. Temperature, 102 F.; pulse, 110; respiration, 29. The pain was so acute that the mere voice of his friends annoyed him greatly. Street travel and the noise of the trolley were torturing to him.

The following evaporating lotion was prescribed:

Chloroformi Lin.	1 oz.
Atropin Sulph.	2 grn.
Chloral Hydrate	2 dr.
Tr. Aconite	6 dr.
Alcohol, q. s.	

Sig.—Soak pledgets of cotton and apply externally; cover up with dry cotton.

On the third day all the pain and swellings of the large joints disappeared, but the carpal, metacarpal, tarsal, metatarsal, and phalangeal joints were swollen, painful, and looked distorted.

Chloral hydrate 15 grn., and morphine sulph., 1/10 grn., were ordered every two hours till sleep was produced, with a continuation of salicylate of soda. The hands and feet were soaked in a hot mustard bath, and a 30-per-cent. ointment of ichthyol, with lanoline as the base, was applied, his hands and feet being wrapped up in cotton and bandaged. This gave relief, and he slept well for six hours.

On the following morning the swelling of hands and feet had disappeared, but the bones of the face were attacked. His nose was swollen to about three times its normal size. In front of the tragus the swelling was very large. The malar articulation was attacked, the face disfigured, movement of the superior maxilla was impossible; he could not take medicine or food, and the pain was terrible. For relief he received 1/4 grn. of morphia hypodermatically. After protecting his eyes with cotton, lint soaked in a lotion of belladonna and lead acetate, with opium U. S. P., was applied. His tongue being dry, chapped, and heavily coated, an enema of soap and water was ordered. To this the bowels responded, and two hours later the patient had a copious, sour-smelling perspiration, followed by itching. Within twelve hours all the joints were relieved, but the wrists, elbows, and the outer side of the shoulder-joint were again affected. The ichthyol was now used locally, and the salicylates combined with 10 grn. of potassium acetate internally. Recovery followed within two weeks, with great debility. He was put on iron, quinine, and strychnine, and in four weeks more he was well.

Cause of Death Following Burns

Anjello and Parascandola (*Gazz. degli Ospedali e delle Clin.*, No. 83, 1896) conducted numerous investigations concerning the cause of death after burns, and conclude that the deaths are caused by toxic ptomaines. The ptomaines of burnt organs are the same when the organ is first removed from the body and burnt. Healthy animals inoculated with this die with the same symptoms as burnt animals. Death after burning is therefore due to the absorption of ptomaines produced by chemical changes in the tissues due to burns. The immediate removal of the burnt part prevents this absorption, and consequently all specific symptoms of the burn and death. The same objects may be attained by venesection and the immediate transfusion of healthy blood or artificial serum. B.

PEDIATRICS

EDWARD N. LIELL, M.D , HERMAN B. SHEFFIELD, M.D.,
H. P. DE FOREST, M.D., H. T. HOTCHKISS, M.D.

Poultices in Bronchitis and Broncho-Pneumonia in Children

A. W. Senior, in the *Brit. Med. Jour.*, April 3, 1897, states that poulticing the chest in bronchitis and broncho-pneumonia is unscientific and prejudicial to the welfare of the patient. The difference in the temperature of the poultice when applied and when removed is such that one might as well be continually moving the child from a warm room out into the cold every few hours. The weight of the poultice must also be taken into consideration. The average weight of a well-made linseed-meal poultice is 6 ounces. Even allowing for the fact that the respiration in these cases is to a large extent diaphragmatic, the author finds from observations that the chest-wall rises on an average one-sixth of an inch at each respiration. Supposing the child breathes 40 times a minute = 2,400 an hour = 57,600 in twenty-four hours—the poultices are therefore a handicap to the muscles of the chest-wall of the child, to the extent that in twenty-four hours 21,600 pounds have to be lifted to the height of one-sixth of an inch, or 300 pounds one foot. The writer considers the disadvantages of poultices to be enormous, and more than counteract any beneficial influence they may have. B.

Pavor Nocturnus in Children

Dr. L. Braun, in the *Jahrbuch f. Kinderheilkunde* (Jan., 1897), contributes a very interesting article on the above-mentioned subject.

The etiology is uncertain. Hesse believes that pavor nocturnus is a psychical anomaly, resembling mania transitoria of the adult. Steiner, Wertheimber, Henoch, and others think it an idiopathic disease, due to a primary irritation of the brain. West, Sydney, Ringer, Bouchut, and others consider it a secondary irritation of the brain, originating reflexly from disturbance of the alimentary canal. Silberman, and his followers, again, assume that pavor nocturnus may be idiopathic as well as symptomatic; the latter type being mainly due to a "reflex neurosis of the pulmonary tract of the vagus, caused by the gastric tract of the vagus nerve." Soltman maintains that pavor nocturnus is the result of cerebral hyperesthesia of the optic nerve. All of the authors agree that pavor nocturnus is met with in children of more or less nervous temperament, and this leads Dr. Braun to advance the theory that pavor nocturnus is not an affection *sui generis*, but a manifestation of neurasthenia. As exciting causes, he enumerates, among others, deficiency of sleep, abuse of alcoholic beverages, acute as well as chronic gastritis, ascaries, dentitio difficilis, colic, overloading of the stomach late at night, phimosis, masturbatio, etc., etc.

The coming attack, which may occur also during the day—pavor diurnus—can, as a rule, be predicted some time before the child goes to bed, by its fretfulness, irritability, etc. From a half-hour to four hours after enjoying more or less sound sleep, the child awakens with sudden crying, sits up in bed, strikes out with its little hands as though trying to defend itself, supplicates the surrounders to protect it, utters, unintelligible words, with names of animals, persons, or objects which seem to form the main substance of the terrifying dream. The countenance betrays the fear; the face is pale or red; the pupils contracted or dilated. The child is unconscious during the whole attack, which may last from a few minutes to an hour. After regaining consciousness, it falls asleep, thoroughly exhausted. Some children have a faint remembrance of the occurrence the next day.

The prognosis is usually favorable. Some authors have seen epilepsy following severe and prolonged attacks of pavor nocturnus.

The treatment is prophylactic and includes removal of all exciting causes; regulation of diet, sleep, and exercise; alleviation of timidity in children by proper training; avoiding the excitement resulting from terrifying stories, performances, etc.; tonics and warm baths.

The active treatment should include bromides, chloral hydrate, quinine.

[We would consider quinine contraindicated, owing to the "cinchonism" it produces, which, in itself, is liable to give rise to new attacks.—EDITOR.]

Erysipelas

Tannini pur	2.0
Camphor	2.0
Ether Sulph	15.0

In the height of the disease, *Pediatrics*, Feb. 1, 1897, recommends the penciling of the above solution over the affected portion. The probable point of infection is to be thoroughly cleaned with a strong solution of carbolic acid corrosive sublimate. In a few days the disease will be checked.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Psychological Notes Upon the Sense of Sight

Drs. Vurpas and Eggli publish some highly interesting observations in the *Annales méd. psychologiques*, p. 14, 1896, upon two boys, aged 4½ and 5 who had been blind from birth and were then operated upon with the acquisition of vision.

The first sight experiences were not accompanied by any pain or smarting and sight seemed to be of no value at first in the estimation of direction of distance, so that as a guide in locomotion it was not used.

The authors think from these cases that the sense of sight is one that can be dispensed with better than most of the other special senses. The sense of taste is considered of great importance and that sight is used as an adjunct for convenience.

Voracious Hunger and Thirst After Injury or Disease of the Brain

In a paper with the above title read before the Clinical Society of London, Stephen Paget (*Brit. Med. Jour.*, Feb. 20, 1897) said he had collected notes of fourteen cases pointing to the existence of special centres of hunger and thirst close to the centres of of speech, probably in the anterior extremity of the temporo-sphenoidal lobe, near the uncinate gyrus. A short account was given of each case, including one in his own practice. Four of the patients had received a severe blow on the forehead, 2 had been struck on the side of the head, 2 had fallen heavily on the back of the head, 2 had presented signs of a fracture of the base, and 1 had fallen from a height, coming down in a sitting posture. In addition to these 11 cases of injury there were 3 cases of disease: 1 had abscess of the left temporo-sphenoidal lobe, 1 had a suppurating cyst in the right temporo-sphenoidal lobe, and 1 had embolism of the left side of the brain. Eight of the 14 patients suffered from voracious appetite for solid food, without much thirst; 3 suffered both thirst and hunger; 3 had intense thirst without hunger. In none of them was the primary injury or disease fatal; it was, therefore, certain that the centres of hunger and thirst were not situated in the immediate neighborhood of the vital centres. Three of them had well-marked aphasia; it was, therefore, probable that these centres lay close to the centres of speech, and not improbable that they were connected with the olfactory centre. This hunger and thirst was not the natural appetite of convalescent patients, nor the result of any general mental derangement, nor was it secondary to traumatic diabetes. With regard to treatment, no harm had come in any case from letting the patient freely indulge his craving for food and drink. The voracious desire lasted, as a rule, for many weeks or months, and then came to an end of itself. B.

Cretinoid Myxedema Treated by Thyroid Gland

Dr. John C. Shaw, in the Brooklyn *Med. Jour.*, Jan., 1897, reports several cases of this heretofore incurable malady. The first case cited occurred in a child 3 years of age. At birth, labor was easy and rapid; she weighed seven pounds, and the mother stated that she was as healthy as her other children, except that she had the "snuffles," and her eyelids appeared a litttle swollen. The child did not appear to grow and seemed stupid. At present she only can say the words "Mama" and "Papa." The patient has never walked, and stands with difficulty. The mother noticed that the child had peculiar attacks occurring at irregular intervals, about once a month, during which she was irritable and feverish; the lips and feet would become purplish and cold, and entire half of the body become swollen. She never lost consciousness. This condition would last for from one to three days, and gradually subside. The child presented the typical phenomena of the disease, viz.: Old expression, entire face swollen and puffy, especially the eyelids, swelling of upper and lower extremities; feet cold and cyanotic; the body large in proportion to the height; very large abdomen, etc.

Beginning July 5, five grains of the desiccated thyroid were given twice a week, mixed with her midday meal. After each administration of the thyroid there was a slight elevation of temperature for some hours. There seemed to be a decided improvement in the child's mental activity; she took notice of persons around her, pictures and flowers, and would smile when spoken to, and there was a great improvement in locomotion.

The other three cases cited all seemed to derive great benefit from the thyroid treatment. The author always employs five grains at a dose once daily, or at longer intervals.

The gland is at present administered as a desiccated powder, as tablets and tabloids; also a glycerin-extract; occasionally as cooked fresh glands. The sheep's thyroid is always used; when the glycerin-ex tract is employed, it is given hypodermically in about fifteen minims at a dose, every day or less often. Care is to be observed in the administration of the thyroid, as death has been known to result from its use.

It is advantageous to begin with small doses, two or three times a week, in order not to "deluge the patient with it." The anemia which is present in some of the well-marked cases has not disappeared, even when all the other symptoms have done so.

The Nitrogen of the Human Brain

By means of the Kjeldall method, Von Jaksch, in the *T'tschft f. Newenheilk.*, XII, 1896, analyzes and gives the results found in thirty adult brains from patients dying of various affections of this organ.

In the right and left hemispheres the amount of nitrogen was about the same; averaging 1.85 grns. to the 100.

No great variation from this amount could be determined even in diseased conditions giving marked anatomical modifications of the brain topography.

Static Electricity in Nervous and Mental Diseases

Dr. H. R. Niles, in the *American Journal of Insanity* (Vol. LIII., No. III), urges the employment of an agent which, in the hands of some neurologists, is falling into disuse.

Improvements in the construction of static machines have modified and tempered the irritating qualities of the current to such an extent that, after one application, an expression of satisfaction from the patient is the almost universal reward of the operator. Its pleasant, soothing effect, the gentle stimulation of the circulation—indirectly affecting nutrition—and the readjustment of metabolism, as well as the favorable psychic effects, are desiderata more readily obtained in many cases by the static current than any other therapeutic measure.

In many cases beneficial effects are immediately obtained.

Endowed with high potential, deficient in volume, and possessed of an enormous electro-motive force, static electricity is enabled to affect the entire system in a limited degree. It affects the functional processes, glandular secretions, the circulation, nutrition, sleep and sensation.

In melancholia, neurasthenia, and kindred neuroses, in which the nutrition of the nerve-cell is primarily at fault, a toxic condition is established through the inability of the cells to rid themselves of the results of physiologic activity. This toxicity is responsible for many of the mental and physical manifestations, and the discomfort to which these patients are subject. The aim in treatment is to prevent undue waste of nervous energy, and to aid in the elimination of self-produced toxic substances. To this end the highest degree of nutrition possible should be established and maintained, and the single agent of greatest value to accomplish this is the static current.

Deficient nutrition and deficient elimination—aside from heredity—are the two factors which enter with greatest frequency into the etiology of all neuroses. These conditions are overcome, therefore, by any therapeutic agent which will prevent a more nearly normal metabolism. A high degree of nutrition and cell-activity in any organ is indicated by an increased circulation of the blood in that organ. The ability of high potential currents to accelerate the circulation and to improve nutrition has been demonstrated clinically. In all cases where nutrition of the tissues, especially of the nerve structures, is below par, from any but an organic cause, it is a time of the greatest efficacy.

Aside from the relief of symptoms to which it is especially directed, there has been observed improvement in remote visceral disturbances, such as indigestion, habitual constipation, vertigo, etc.

Aggravated forms of neuralgia are benefitted by the current.

Notwithstanding the opinions of many others to the contrary, Dr. Niles is a firm believer in the differences of polar action. He finds that while positive static insulation is invariably an agreeable application, and, as a rule, brings quiet and comfort, the reverse is true of the negative.

The observations of Darnian, of Paris, upon the temperature, pulse, and the urine, to determine what, if any, difference there was in the different insulations, resulted in finding that with the positive insulation there was a regulation of the temperature and heart's action, and increase of urea and diminution of uric acid; while with the negative insulation these changes were less marked in so far as the temperature and pulse were concerned, and that the volume of urine was increased, but no change occurred in the organic constituents.

The frequency of the applications must be governed by the condition of the patient. In cases of serious nervous disturbances—neurasthenias, neuralgias, chronic headaches—daily applications will be found most effectual, and in very severe cases (with pain) two or more applications daily. For ordinary cases three to four applications weekly suffice. The duration of each seance should be from five to twenty minutes.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D., DAVID M. STÄBLER, M.D.

The Surgical Treatment of Focal Epilepsy

Sachs and Gerster, in the *Amer. Jour. of the Med. Sciences,* Oct., 1896, conclude as follows:

1. Surgical interference is advisable in those cases of partial epilepsy in which not more than one, or at the utmost two, years have elapsed since the traumatic injury or the beginning of the disease which has given rise to the convulsive seizures.
2. In cases of depression or other injury of the skull, surgical interference is warranted, even though a number of years have elapsed; but the prospect of recovery is brighter, the shorter the period of time since the injury.
3. Simple trephining may prove sufficient in a number of cases, and particularly in those in which there is an injury to the skull or in which a cystic condition is the main cause of the epilepsy.
4. Excision of cortical tissue is advisable if the epilepsy has lasted but a short time and if the symptoms point to a strictly circumscribed focus of disease.
5. Since such cortical lesions are often of a microscopical character, excision should be practiced, even if the tissue appear to be perfectly normal at the time of operation; but the greatest caution should be exercised in order to make sure that the proper area is removed.
6. Surgical interference for the cure of epilepsy associated with infantile cerebral palsies may be attempted, particularly if too long an interval has not elapsed since the beginning of the palsy.
7. In cases of epilepsy of long standing, in which there is in all probability a widespread degeneration of the association fibres, every surgical procedure is useless.

Gonorrhea Treated with Dilute Solutions of Potassium Permanganate

The Edinburgh *Med. Jour.* of Feb., 1897, says the solutions employed by Jouet varied in strength from 1-500 to 1-2000; others had obtained better results by diluting the solutions still further, 1-5000 to 1-10000. The lavage is done by syringe or siphon pressure, once, or at most twice, in twenty-four hours. Success is greatest when the treatment is begun within three days of infection; in this case the anterior portion only of the urethra required lavage, and cure may be expected in from eight to twelve days. Even if begun at a much later date treatment is very successful, but the irrigation must now extend to the posterior part of the urethra. Jouet has recorded his experience of this method over a period of five years, during which time he has never met with any of the complications of gonorrhea, nor has he observed a single case of stricture result in patients treated by this method.

The Causation of Chloroform Syncope

Leonard Hill, M. B., in the *Brit. Med. Jour.,* April 17, 1897, endeavors to establish the true pathological cause of chloroform syncope, and the controversion of one of the most pernicions and dangerous doctrines ever put before the medical profession. This doctrine, so long received by many with credence, is that chloroform kills by paralyzing the respiratory centre. He formulates the following conclusions:

1. Chloroform produces a primary failure of the circulating mechanism and a secondary failure of the respiratory centre. The respiratory centre fails to act not only because it is damaged by the drug, but because of the anemia of the spinal bulb produced by the fall of arterial tension. This is proved by the fact that the action of the respiratory centre can be renewed by raising the arterial tension. The depth of anesthesia depends, as does the paralysis of the respiratory centre, on the primary fall of the arterial tension.
2. Chloroform, more than any other known agent, rapidly abolishes the vascular mechanisms which compensate for the hydrostatic effect of gravity.
3. Chloroform abolishes these mechanisms by paralyzing the splanchnic vasomotor tone, and by weakening the action of the respiratory pump. When these mechanisms are totally abolished the circulation is impossible if the subject be in the feet-down position.
4. Chloroform also produces paralytic dilatation of the heart. It acts directly like amyl nitrate on the musculature of the whole vascular system.
5. There are two forms of chloroform syncope: (*a*) During primary anesthetization. The patient struggles, holds his breath, raises the intrathoracic pressure, congests his venous system, lowers his arterial tension, and finally takes deep inspirations and surcharges his lungs with chloroform. In the first stage the left heart becomes impoverished; in the second stage it is suddenly filled with blood. This is drawn from the lungs, and is full of chloroform. The chloroform passes into the coronary arteries, and the heart is thrown

into paralytic dilatation. Respiration and the pulse either cease simultaneously, or the pulse before respiration. (*b*) During prolonged anesthetization this arises from gradually giving chloroform to too great an extent. The arterial pressure falls lower and lower, and, secondarily, the respiration ceases becauses of the anemia of the spinal bulb. The heart is not in this case paralyzed by chloroform, because the drug is taken in gradually by the shallow respirations, and distributed slowly.

6. Artificial respiration and the assumption of the horizontal position, if applied in time, will always resuscitate a patient from the second form of syncope.

7. Artificial respiration, established with the patient in the horizontal posture, is also the treatment indicated in the first form of syncope; the heart should be rhythmically compressed by squeezing the thorax. If this does not quickly renew the pulse, the patient should be put into the vertical feet-down posture. The dilated right heart is thereby completely and easily emptied of blood. Artificial respiration is maintained during this manoeuvre, and the patient is brought once more into the horizontal posture. By rhythmic compression of the chest an efficient circulation is maintained through the coronary arteries; by first emptying and then filling the heart a fresh supply of blood is brought into that organ. If this does not prove successful on the first trial it can be repeated.

8. Inversion, that is, placing the subject in the feet-up position or compression of the abdomen will increase the paralytic dilatation of the heart. In this kind of syncope both these forms of treatment are worse than useless.

9. In the condition of shock or emotional fear the compensatory mechanism for the effect of gravity is almost abolished, and chloroform may easily be the last straw to completely paralyze the circulation.

10. Vagus inhibition of the heart is of no importance as an agent in the production of chloroform syncope.

11. Ether is in every respect a far safer anesthetic than chloroform. According to Ringer's experiments on the heart, ether is fifty times less dangerous than chloroform.

12. With the practical conclusion of the Hyderabad Commission that the chloroform inhaler should be removed during the struggling of the patient or when the respiration of the irregular depth, the author is in absolute agreement, but he considers their interpretation of their own experiments and tracings concerning the origin of chloroform syncope to be mistaken.

Not only the work of all physiologists, but also the tracings of the Commission, when rightly interpreted, prove that paralysis of the circulatory mechanism, and not of the respiratory centre, is to be dreaded by the anesthetist. B.

The Effects of Small-Calibre Bullets as Used in Military Arms

Dr. Gwilym G. Davis, in the *Annals of Surg.*, Jan., 1897, concludes an article on this subject as follows:

1. That the initial force of a bullet is an onward or penetrative one.

2. That when penetration is impeded, the onward force becomes transformed into a lateral one.

3. That explosive effect is only another name for lateral action—*i. e.*, outside of the track of the bullet.

4. That lateral action is most marked in hard bones (the fragments being carried outward) and in organs containing water (bladder, brain, liver, etc.).

5. That practically the rotation of the bullet on its axis does not materially affect the character of the injury.

6. That the effect of gunshot-wounds is not so severe on the living body as on the dead.

7. That the destructive power of the small-calibre arm has been over-estimated.

8. That its stopping or disabling power is less than that of larger calibres.

9. That wounds in future conflicts will be, as a rule, less severe and healing more rapid, with fewer complications, than has been the case in the past.

10. That less radical treatment will be required, and conservatism will be followed by most brilliant results.

Neoplasms of the Liver—Diagnosis and Treatment

Tufier (in the *Gaz. hebdom., de Méd. et de Chir.*, Jan. 1, 1897; ref. in the *Am. Jour. Med. Sci.*, No. 300) says: It is impossible in many cases to make a diagnosis without exploratory operation. It is dangerous, then, to make puncture of tumor if found. The hilum of the liver should be explored for enlarged glands. If these are found they are metastatic from a malignant growth, and puncture is not necessary. Absence of these enlarged glands does not exclude malignant growth. If the growth is secondary, metastasis would not take place through the lymphatics, but through the venous channels, and the glands would not be enlarged. Primary cancer of the liver shows metastasis in the glands situated in the hilum.

In malignant growths of the liver there is likely to be great dilatation of the veins, and these are in these cases very friable, and hemostasis is therefore difficult, or even uncontrollable. Digital compression, by introducing the index finger through the foramen of Winslow and compressing with the thumb all the structures of the pedicel, *may* be a temporary expedient, capable of arresting severe hemorrhage. T.

Two Cases of Traumatic Aneurism of the Radial Artery Treated by Excision of the Sac

Mr. T. E. Platt, in the Manchester (Eng.) *Med. Chron.* (Vol. VI, No. 3), reports two cases of almost parallel etiology; both resulted from wounds of the radial artery by knife cuts, and in neither case, though the bleeding was profuse, were the vessels ligated. The tumor appeared in each case soon after the injury, and increased to the size of a walnut in about a month.

The treatment was the same in both cases: a turniquet was applied to the arm, a straight vertical incision made over the aneurism, the radial artery ligated above and below the tumor, and the sac dissected out. The turniquet was not removed from the arm until the dressing and bandaging was completed.

The occurrence of these two cases demonstrates the advisability of resorting to ligation in every case of injury to the walls of a vessel.

Fractures of the Clavicle

Dr. George W. Spencer, in the *Am. Jour. Med. Sci.*, No. 300, advocates the method of incision and suture in the treatment of this injury, claiming that the risk of injury to the artery and vein, and the interposition of muscle-fibres which would delay union, are avoided. The deformity resulting from this injury is considerably lessened by this method.

This fracture occurs more frequently, with the exception of fracture of the radius, than any other fracture. The most common is the outer part of the middle third, because the smallest and most sharply curved part of the bone. The line of fracture may be oblique, transverse, or longitudinal, and is rarely compound or comminuted. It is also rarely broken in more than one place.

One reported case has it that the subclavian vein was injured by a sharp fragment and hemorrhage into the tissues with formation of large tumor. In the process of repair of the injury, air entered into the vein, and death ensued.

Another case was exposed to the same injury. On incision it was found that a portion of the muscle was pulled up between the fragments of bone, and, partially cutting through this by attrition, was in imminent danger of wounding the subclavian vein.

Cases of compression of the vessel are also recorded, as well as compression or laceration of nerve-trunks, causing paralysis. Injuries to the lungs from this injury are also noted in cases quoted.

The method of treatment is as follows: Incision is made over the point where the depression is most marked, the wound-edges retracted, and the fragments exposed. The periosteal elevator is then used to bring up and hold in place the fragments, and as well to protect the deeper tissues from wounds of the drill made in fixing the bone for the reception of its sutures. Silver wire is the preferred suture-material noted. The periosteum is also sutured and the skin-wound closed. The arm is then dressed in the Velpeau dressing with a light plaster-of-paris bandage. T.

The Question of What Produces and What Prevents Ankylosis of Joints

In replying to this question Dr. A. M. Phelps, in *The Postgraduate* (Vol. XII, No. 4, 1897), arrives at the following conclusions:

1. That a normal point will not become ankylosed by simply immobilizing it for five months.
2. That motion is not necessary to preserve the normal histological character of a joint.
3. That when a healthy joint becomes ankylosed, or its normal histological character changed, it is not due to prolonged rest but to pathological causes.
4. That immobilizing a joint in such a manner as to produce and continue intra-articular pressure will result in destruction of the head of the bone and the socket against which it presses.
5. That atrophy of the limb muscles will follow prolonged immobilization of a joint.

The question of ankylosis is determined by the severity and duration of the inflammation, the presence of intra-articular pressure, the subsequent cicatrical contraction of soft parts around the joints, the tissues involved and the amount of destruction of bone and cartilage.

Inflamed joints treated upon the plan of absolute immobilization, and the relief of intra-articular pressure, furnish by far fewer cases of ankylosis, limited motion and deformity.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N. Hoople, M.D.,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Cerebral Complication of Otitic Origin

Dr Ramón Castañeda presented a communication on this subject to the first Spanish Oto-Rhino-Laryngological Congress (*Revista de Laring. Otol. y Rino.*, Jan., 1897), wherein he also cites two cases presenting cerebral symptoms.

Case I occurred in a child seven years of age who suffered from nervous phenomena consecutive to chronic left middle-ear suppuration. Fifteen days previous to having been seen by the author the discharge from the ear had greatly diminished, at the same time there came on a hemi-paresis of the right arm with convulsive twitching of the fingers of the right hand, slight headache and some vertigo. She did not have thermic oscillations, delirium, coma vomiting nor any other meningeal symptoms. Four days later there was paresis of the right leg. Hemianopsia was not present and the pupillary reflexes were normal. An ophthalmoscopic examination revealed venous congestion of the papila. She did not suffer from aphasia. The only psychic symptom present was impairment of memory.

As the syptoms of cerebral compression on the left side were evident, and had taken place in conjunction with the diminution of suppuration from the ear of the same side, the writer proceeded to trephine, beginning by practicing the modified Stacke operation. The mastoid cells were found to be small and contained but a slight amount of pus. Nevertheless, the attic was full of granulation and foul-smelling caseous pus. No communication could be discovered in the bone leading to the intracranial cavity. The dura, on being exposed, seemed to be quite healthy. The temporal lobe was explored by means of a long sterilized needle. but these explorations failed to locate any pus foci. In view of the failure of these procedures to find any pus in the cranial cavity, further operative interference was deferred to a future time, but unfortunately the friends of the patient would not hear of anything else being done. The wound healed in about 26 days, and all twitching had disappeared, but the paresis of the right arm and leg still persisted. Two months later the child died, the author at the same time learned that the compression phenomena had become greatly exaggerated before the final issue.

This case offers various interesting points for consideration. Doubtless there existed an abscess of recent date which most likely was not very large, and it seems to have occupied the temporal lobe. The symptoms present indicated its position to be in the ascending parietal convulution involving, as well, the middle third of the fissure of Rolando or in the posterior segment of the internal capsule. Cerebral abscesses of aural origin nearly always occupy the temporal lobe; frontal, parietal and occipital abscesses are not as common.

Cerebral abscesses are rare in children having rudimentary mastoid cells. Both cerebral or cerebellar abscesses are always situated on the same side of the affected ear, and as a rule they will be found in the temporal lobe.

According to Broca (*Bulletin de la Societé Anatomiq. de Paris*, 1894, p. 561) the localization of abscesses is very difficult before intervention, and those that form at some distance away from the carious foci generally are preceded by lesions of the suroundiug dura. Surgical intervention sometimes does not reveal that basal meningitis, but the possibility of this complication should not impede the operator from intervening.

In this case no direct communication between the focus of pus and the cerebrum could be discovered. Harmann and Garnault believe that frequently this continuity does not exist, and that the infection takes place by way of the lymphatics.

The second case referred to by the author pertains to an army officer, 50 years of age, who had always been in excellent health and moreover had never had any illness which could have brought on his present affliction. Besides he had never suffered from any aural disease.

When seen by Dr. C. he had been suffering with severe pain in the left ear for three days. He attributed his trouble to a severe cold. On examination the patient presented a condition of general excitation with loss of consciousness. The patient would frequently bring his hand over the head as if indicating the intense headache he was suffering from. He appeared to be nauseated, and the thermometer showed a temperature of 39.8 C. The pulse was frequent and small; later on he showed converging strabusmus, myosis, and convulsive twitching of the right arm.

A speculum examination revealed a normal right drum-membrane; the left, however, showed a diffused redness with obliteration of all landmarks. Directly behind the malleus handle there was a slight bulging, indicating the presence of inflammatory exudate. A paracentesis was practiced at this point which gave issue to a sero-sanguinolent fluid which was not abundant. Notwithstanding this and an appropriate treatment of the meningitis, the patient succumbed, with all the symptoms of general paralysis, in less than forty-eight hours from the beginning of the first tokens of meningitis, and five days after the first onset of the trouble—How did this meningitis occur?

We know that meningitis consecutive to affections of the ear is produced in two ways: It can be propagated by contiguity, by alterations in the walls of the tympanum or of the promontory, producing pachymeningitis; or the propagation is established by continuity and, without pachymeningitis, the affection reaches the meninges through the labyrinth and internal auditory canal. There remain, however, a group of lesions which cannot be thus explained, and these cases have been explained by Loewemberg, who says that micro-organisms are transported by way of the lymphatic spaces, not producing any manifestation of their action until they have become fixed. Mangiora and Gradenigo, in their investigation upon the microbes found in the ear, have shown that the same bacilli can be found in the fluids of catarrhal otitis as in the purulent affection.

The intensity of the affection depends upon the activity of the invading micro-organism and upon the bacteriecide action of the mucosa and the fluid secreted.

Otitic brain-complications are usually due to chronic middle-ear suppuration, but they may also be produced by acute purulent otitis, and Garnault says that it is necessary to bear in mind that even a simple catarrhal affection of the middle ear, although rarely, can produce meningitis.

B.

Treatment of Rheumatic Paralysis of the External Rectus Muscle

The existence of rheumatic paralysis involving the external rectus, is not generally admitted. But Dr. G. Martin (*Arch. de Gene., Obs. y Ped.*, Jan. 10, 1897, from *La méd. Cientifica*) has observed four cases of paralysis affecting this muscle in subjects exempt from any syphilitic manifestations as well as of tabes, and in whom the affection was manifestly associated to a rheumatic diathesis. In all these cases the muscular paralysis disappeared under the influence of hypodermic injections of sublimate.

The good effects of this medication were revealed to the author accidentally, in the first case treated. This patient was suffering from paresis of the external rectus of the left eye, coming on suddenly, a few hours after having waded in a cold stream of water. Dr. M. did not see the case until eleven days later. The author practiced in the temporal region an injection of a liquid which he believed to be a solution of nitrate of strychnine. On the following day he was surprised to find marked edema at the site of puncture, and at the same time a decided improvement in the paralysis. Seeking the cause of such unexpected phenomena, he discovered that instead of a strychnial solution he had employed a one-per-cent. sublimate solution. This treatment was continued, and at the end of ten days, during which time six injections of 50 centigrammes of mercury were made in the temporal region, and three injections in the back, the patient was entirely cured of the affection.

Since then Dr. Martin has had occasion to treat three other similar cases presenting the same affection.

In the first case the external rectus had been afflicted with paresis for three days, and a cure was obtained at the end of nine days, employing in all eight injections. In the second case there existed paralysis of one month's duration, which was recovered from in eighteen days after fourteen injections. In the third case, who had paralysis of three months' duration, it disappeared in ten days after employing eight injections. In the two last observations the affection remained absolutely stationary until the injections were employed, when, however, it began to disappear. Improvement was noticed after the third or fourth injection.

B.

Is Exophoria Curable Without Operation?

Campbell (*The Phys. and Surg.*) says, in the correction of the defect known as exophoria, many procedures have been employed as follows:

1. Correction of errors of refraction;
2. General systemic treatment of a tonic, hygienic, alterative, or specific nature;
3. Surgical procedures which consist either in tenotomies (partial or complete) of the external recti, or advancement of the internal recti;
4. What might be called the gymnastic correction of the defect.

Each case has to be studied by itself, and one of the above rules applied to its cure.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M.D., HOMER E. FRASER, M.D.

Lupus Erythematosus

Dr. Schütz (*Wiener med. Presse*) recommends the following new treatment for lupus erythematosus: He paints the affected part with a solution of arsenous acid (1:400-600, or a 4 to 6 times diluted Fowler's solution), twice a day for six days in succession. The swelling and painfulness produced by these applications disappear within eight hours under mild ointments, when the same treatment is repeated. Nine cases treated by this method were cured in an average of eleven weeks. Lupus vulgaris under the same treatment becomes aggravated.

The Microbial Origin of Baldness

In a paper with this title, Dr. L. Wickham rehearses Sabourand's researches into the relations between seborrhea alopecia areata, and baldness (*Brit. Med. Jour.*, April 24, 1897).

After four years devoted to the mycological and therapeutical study of tinea tonsurans, and after trying in succession all the remedies devised for its cure, Sabourand came to the conclusion that no antiseptic treatment is absolutely efficacious in the case of a tinea fungus which has invaded the hair as far as the root. This is due to the inaccessibility of the root to antiseptics owing to the narrowness and depth of the hair-follicle, which prevent the diffusion of all the therapeutic agents which have been employed.

A preliminary study showed that alopecia areata started from a central point, and that the baldness spread from this point by creeping in every direction along its circumference, in the manner of a spot of oil in a fabric. It showed furthermore that the most pathologically active zone of the patch is situated at its confines, and that it is in this circumferential zone that the infected and broken hairs are found in the form of clubs. The micro-organism resides in the active peripheral zone, and more exactly in the dilated orifices of the hair-follicles. M. Sabourand obtained some histological material from the body of a hospital patient who was suffering at the same time from a skin affection and alopecia areata, and was thus able to see clearly in his histological specimens that a constant small bacillus was to be found infecting the upper part of the hair-sac. He was further able to discover that the orifices of the follicles were filled with a fatty substance which could be squeezed out on pressure, and which he called the "seborrheic cocoon." In this seborrheic cocoon can be found, surrounded by a crowd of other microbes, the same organism which has been demonstrated in the histological sections. It remained to isolate this bacillus, to cultivate it, and to demonstrate that it is the cause of alopecia areata.

The culture-medium employed by M. Sabourand is as follows:

Peptone	20 gme.
Glycerin	20 gme.
Acetic Acid	5 drops
Water	1,000 gme.
Gelose	13 gme.

With this medium one can obtain in many of the tubes, in the midst of the other colonies, one or two pure cultures from the beginning, which are visible on the third or fourth day, the temperature being 35° C. They show as pointed mounds, the color of which is dirty-white on media containing glycerin, a very characteristic brick-red on glycerin media.

A preliminary study of seborrhea in the hairy scalp revealed (1) that the bacillus of the brick-red cultures from alopecia areata is also present in the seborrheic plugs of the mouth of the hair and sebaceous follicles in seborrhea, that it is there present in considerable quantity, and that it certainly is the cause of seborrhea, (2) that consequently seborrhea and alopecia areata have a common origin from the same micro-organism. Finally, having studied the obvious relations existing between seborrhea and the habitual falling out of hair, Sabourand came to the conclusion that the disseminated loss of hair in seborrhea was the prelude of baldness. B.

Regional Forms of Eczema

Dr. L. A. Duhring, in the *Am. Jour. Med. Sci.*, No. 300, gives an exhaustive review of this subject, saying that this disease has a great variety of manifestations, and these manifestations are capable of many and varied modifications. The disease, however, has a pretty clear boundary, and is well defined. Not only are the clinically objective and subjective symptoms to be considered, but also its general and local pathology. Bacteria in the light of modern research as well as various irritants will show on investigation etiological factors.

There are two distinct modes of treatment, viz.: Internal remedies with suitable diet; second, external agents, and again a combination of the two. Cases are acute, sub-acute, and chronic; and in location regional. The stage will be retarded from or advanced toward recovery by a proper appreciation and selection of the appropriate agent. This is not a hap-hazard choice. An observation of a large number of cases will show to the observer that a certain line of facts or symptoms, like family likenesses, runs through all the individuals. For this reason observers in daily contact with large numbers of cases will regard the treatment of eczema as a matter altogether removed from the indefinite.

In the treatment of the disease the anatomical construction of the region affected must be thought of. A modification in form will most certainly occur as a result of the difference in structure. The mucous surface is no more exempt than the skin, and while small areas are usually affected, the entire surface is not free from attacks.

Eczema of the scalp is in form erythemato-squamous, squamous, or pustular and crusted, with a tendency to become chronic. Differentiate (with the microscope, if necessary) from tinea tonsurans, also from psoriasis and seborrhea, and chronic ringworm of the scalp.

For vesico-pustular or pustular the crusts are at once removed with a bland oil, followed by soap and water. Repeat the process until the part is free from crusts. A weak carbolic lotion, a saturated solution of boric acid, and 10 minims of glycerin to the ounce, followed by salicylic-acid ointment, 15 grn. to the ounce, is advised.

For acute pustular forms ichthyol in olive-oil, 10 grn. to the ounce, or the same with almond-oil or lime-water. Mild and soothing applications are the rule here. For subacute vesicular, or discharging forms, salicylic-acid ointment of double the strength is used, also sulphur ointment, 10 or 20 grn. to the ounce. This is particularly useful in cases of involvement of the sebaceous glands, the "seborrheic" eczema.

In the mildest forms of the disease the medicated soaps may be of use, but for any other they lack penetrating power. Tar and the tarry products are useful in those forms in which the disease occurs as chronic, more or less infiltrated, reddish, scaly, diffuse, or circumscribed areas. This medication should not be used too strong at first so as to cause over-stimulation of the subcutaneous capillaries. For a decidedly stimulating effect equal parts of oil of cade, soft soap, and alcohol. The soap may be omitted. Creolin in lotion, calomel, and the white precipitate, in the form of ointment, citrine ointment freshly prepared rubbed down with olive-oil, or oil of almonds, to the consistence of thick cream, tannic-acid ointment, with carbolic acid, solutions of silver nitrate followed by a mildly stimulating ointment. Whatever the medicament, the case is to be watched for a few days and results noted and changes made if necessary. E.

Blood-Erythema

Dr. Harrison (*Brit. Jour. of Derm.*, Jan., 1897, p. 42; ref. in *Am. Jour. Med. Sci.*) calls attention to the peculiar state of the skin in which arterial blood sprinkled upon it causes irritation and sets up an erythema, first described by Shield.

The case of a surgeon, who for a great many years was annoyed by the irritation resulting from arterial blood coming in contact with his skin, making him uncomfortable, is cited. It was not altogether a subjective sensation. After washing off the blood a pink stain was left on the skin, which lasted for fifteen minutes or longer. He was also very susceptible to the smell of blood.

Mr. Chappell Fowler was acquainted with a surgeon who suffered from the same irritation. He was asthmatical, of very neurotic temperament, and the smell of blood was loathsome to him. After a case of post-partum hemorrhage he had seen an erythematous rash on the arm where the blood had been projected some hours after carefully washing the part, and there was irritation. B.

Tertiary Syphilitic Epididymitis

Dr. Chas. G. Kumston, of Boston, in the *Annals of Surgery*, Vol. XXV, No. 3, p. 306, states that for a long time tuberculosis and gonorrhea were supposed to be the only diseases to attack the epididymis. Tertiary syphilitic epididymitis may appear from two to twenty years after the primary lesion, and it usually occurs in patients from 35 to 45 years of age. He reports the case of a patient aged 33 years. The primary lesion had occurred four or five years previously. The diagnosis is often attended with considerable difficulty in secondary epididymitis; both organs are frequently the seat of trouble. Dron found this true in seven cases out of fourteen, and other observers in about the same proportion. In the tertiary form, the indurated nodes are often multiple, much larger than in the secondary form, and the entire epididymis is apt to be involved. The tendency to break down, so common in tubercular epididymitis, is absent, but the onset of the disease is more insidious and the progress slower than in malignant epididymitis. The prognosis is, as a rule, good, the nodes usually almost entirely disappearing under specific treatment.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

Organic Heart Disease During Pregnancy and Labor

W. W. Lea, of Manchester (*Med. Chron.*, Oct., 1896), calls attention to the danger of organic heart-disease during pregnancy and labor, and reports seven such cases coming under his personal observation. Three of these patients died. It is known that there is a certain amount of dilatation in normal hearts during pregnancy as a result of the increased amount of blood and the greater blood-pressure. Valvular disease causes at times excessive dilatation and even fatty degeneration in the heart-muscle itself. In the periods between pregnancies the symptoms at times entirely disappear.

In the cases where heart-lesions exist there is always a marked tendency to abortion or premature labor. In cases of mitral stenosis the period of greatest danger for the patient is immediately after the birth and during the first few days of the puerperium; death from such conditions has, however, occurred as late as six months after confinement. When compensatory disturbances occur as early as the third month induced abortion appears to be indicated; the symptoms, as a matter of fact, rarely appear before the fifth month. Digitalis and strophanthus should be given in these cases, the dangers of induced premature labor being greater than expectant treatment. The duration of labor should be shortened as much as possible. In cases of marked cardiac weakness immediately after labor, nitrite of amyl is to be given; but in some instances treatment is of little avail. During the puerperium absolute quiet should be enjoined, and digitalis given as required.

Child in Utero Crying During Labor

In a communication to the London *Lancet*, E. Fittzgerald Frazer writes as follows: "I was in attendance on a case of twin labor here recently where I applied the forceps to the head of the first coming child. While using gentle traction, and the vertex being still upon the perineum, I was surprised, as was also the nurse, to hear the child cry. At first we thought we were deceived, but in a very short time after the sound was repeated, and before any part of the head was born the same phenomenon occurred several times. Nothing unusual happened during the birth of the second child, which came away naturally. I cannot say whether the pressure of the forceps had anything to do or not with causing the crying. There were no marks of it on the head, and the boy is doing well. This instance illustrates the possibility of uterine breathing, as otherwise I cannot see how the vocal cords could have been called into play. I attribute the entry of air into the lungs as having taken place during the time I was putting the forceps into place, in doing which no difficulty presented itself."

B.

A Case of Maternal Impression

Dr. A. D. Whiting, of Philadelphia, in *University Med. Mag.*, Vol. IX, No. 5, reports the following case of a colored woman, 26 years, primipara, admitted to the German Hospital suffering from severe burns of the body, head and extremities. Patient was pregnant, and said that she had been expecting to become a mother for the past few days. The burns were very extensive, the back, posterior part of the thighs, the perineum, and external genitalia, and the head being markedly affected. The child was alive on admission, about a half-hour after the injury to the mother had been received, as was evidenced by its movements in the womb and the heart-beats. Nine hours after admission a male child was delivered, dead, after the mother had been in labor about two hours. The presentation was L. O. A., and the delivery of the child was accomplished without any difficulty, the uterine force being apparently strong and regular. Efforts were made to resuscitate the child, but without avail. The mother died ten hours later, or about twenty hours after receiving her injury. The child presented fresh-looking blebs on the legs, arms, and face, and extensive blisters on the back, the back of the thighs, and the scrotum, the parts affected corresponding to a marked degree to the burned areas of the mother. This was especially noted with regard to the back of the scrotum, the back and vulva of the mother having been severely affected.

Many interesting points were developed in the case. On admission, the fetus was alive. A prognosis of fatal termination, as far as the mother was concerned, was given, and the question of saving the child was brought forth. A Cesarean section was advised with this end in view, but the husband positively refused his consent to an operation. It is probable that such an operation would have been of no avail, as it is likely that the child received the shock from the burns almost coincidently with that received by the mother, and that a living child would have been delivered only to succumb to shock and the extensive injury from the maternal impression of the burns.

It would be interesting could one state positively whether the child succumbed to the shock received by the mother or whether it died from the effect of the maternal impression directly; also, whether a living, healthy child would have been delivered had an operation been performed, or whether the child would have presented a condition similar to one caused by direct burns.

Double Ovariotomy During Pregnancy Followed by Labor at Term.

The *Bul. de l'Académie de Méd.* (No. 3, p. 100, 1897) records the presentation by Dr. Ch. Perier to the archives of the Academy of a work by Dr. Mouchet, of Sens, which describes a new case of double ovariotomy during pregnancy, followed by labor at term with happy results to both mother and child. Of such *double* cases he says we can scarcely find a dozen. Dr. Mouchet, who is a corresponding member of the Surgical Society, reported this case to the Academy in 1896, and the last previous case was reported by Polaillon in July, 1892. This young woman entered the hospital at Sens in a very restless state five months after marriage, three months after cessation of menses, and two months after the onset of pain in abdomen, with frequent vomitings and fever, which had become intolerable. Examination showed intra-pelvic cyst complicating the pregnancy. Medical treatment failed to relieve.

Laparotomy revealed a large cyst of the right ovary wedged in the pelvis behind the gravid uterus. This and the diseased and adherent left ovary were both removed. The temperature did not rise above 37.8° C. (100° F), except on twelfth day, when it arose without known cause to 39° C. (102.2° F.). Vomiting and pains in the abdomen continued a long while. Labor pains at term produced so much pain in the waist-region that the forceps were used and a healthy child delivered. The lochia were normal. One query is as to the nature or cause of the fever in the early stage of the pregnancy. Dr. Perier commends the wisdom of resort to the operation as soon as the diagnosis of the imprisoned cyst was made, counting the danger from that infinitely less than from allowing the cyst to remain there with the probability of its developing *pari passu* with the gravid uterus. In these cases the operation seems not to hinder much or often the normal progress of the pregnancy. If an opposite course is pursued the result is usually an abortion and subsequent necessity for ovariotomy as well—a double danger.

Rectal Gonorrhea in Women

In the past year Dr. Baer (*Archivos de Geneco., Obste., y Pedia.*, Jan 10, 1897, No. 1) has received in his service 296 women with affections of the genital organs. Of these, 105 had syphilitic lesions exclusively; 191 presented simple blennorrhea. Of the 191 with gonorrhea, 67 presented the affection in the rectum.

Theoretically, according to the author, the infection occurs in three different ways:

1. Directly through abnormal coitus.
2. Indirectly from the communication with the rectum of an organ attacked with gonorrhea.
3. By the conveyance of the germs from without by pus, or by therapeutic measures (thermometry, irrigation, etc.).

Clinical experience has confirmed this pathogenesis. As to the first mode, the objective symptoms (form of the anus) are very inconstant in women, and we cannot always believe what the patient tells us. The second mode of invasion is rare. The author has observed but one case (fistula). The great majority of these cases are caused by the carrying toward the rectum of the infectious fluid coming from the vulva.

The urethral discharge frequently is not of sufficient copiousness to make it responsible. This is not, however, true of the discharge proceeding from the cervix in metritis. Infection occurs with greater facility in prostitutes and in women who have been pregnant numerous times.

Some patients who have ulceration complain of marked pain on defecation; others discharge both pus and blood *via ano*. The mucosa is congested, and bleeds easily in consequence of erosions produced by maceration and epithelial desquamation. There is usually a slight discharge, which always contains typical gonococci. The speculum examination, which reveals lustrous folds of the mucosa, is but slightly painful, and there are no disorders of defecation. The treatment consists in injection of a 3-per-cent. solution of boric acid, and to diminish the secretion and destroy the gonococci solution of nitrate of silver 1-3000, employing a quart of each solution. The treatment should be continued until no germs can be detected in the discharge; usually for from five to six weeks. When an exacerbation occurs, it is difficult to decide whether or not a new infection has taken place. B.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L SCHÖNEY, M.D.

The Action of Diphtheritic Toxin and Antitoxin on the Bone-Marrow

At a recent meeting of the Paris Biological Society (*Medical Week*, Vol. V, No. 2), Dr. Roger and Mr. Josué stated that they had shown in a preceding communication that the bone-marrow produces leucocytes, the function of which is to seize microbes in the blood.

Pursuing their researches, they have investigated experimentally the action of diphtheritic toxin and antidiphtheritic serum in the medullary tissue.

Rabbits into which they had injected diphtheria toxin, within twenty-four hours presented proliferation of the marrow-cells, which is more marked at the circumference and affects the small cells. After forty-eight hours, the increase in the number of cells is much greater; but it is then principally the large and medium-sized marrow-cells which have undergone proliferation. At the end of four days, the entire section presents a continuous layer of cells, with complete disappearance of the areolar arrangement, intense congestion, and thickening of the fibrils. The bone-marrow of a rabbit, killed twenty-four hours after the injection of anti-diphtheritic serum, reveals changes which are much more marked than after the injection of toxin. Proliferation is general, mainly in the small cells, the large and medium-sized ones remaining comparatively few in number; on the other hand, the myeloplaxes are very abundant.

In animals into which both toxin and serum have been injected simultaneously, proliferation is especially active in the small marrow-cells, but this predominance is less marked than in animals into which antidiphtheritic serum has been injected separately, and more marked than when the animal has only been intoxicated, without any serum treatment. Besides, thickening of the fibrils is less marked than in animals into which diphtheritic toxin alone has been injected.

Diphtheritic toxin and antitoxin therefore determine rapid proliferation of the cells of the bone-marrow; but, while under the influence of toxin it is principally the large and medium-sized cells that develop within forty-eight hours, in animals into which serum alone has been injected it is mainly the small cells that undergo proliferation. The marrow of animals, into which toxin and antitoxin have been injected at the same time, presents changes which on the second day are similar to those produced by toxin, and on the fourth day show a still closer resemblance to those determined by antitoxin.

From these experiments the authors concluded that, though diphtheritic toxin and antitoxin determine proliferation of the cells in the bone-marrow, the histological appearance is not the same in either case; it differs, also, from that observed in suppuration, in which the different varieties of cells of the marrow increase in number in about equal proportions.

The development of the small marrow-cells under the influence of antidiphtheritic serum and at the onset of the diphtheritic infection, at a time when the organism is reacting against the toxin, appears to show that the proliferation of these small cells is dependent upon the antitoxin. This conclusion, however, can only be admitted to be proved when we have ascertained the action of normal serum on the bone-marrow.

Microbes of Plague and Yellow Fever.

The following interesting notes are taken from *Nature* (1425, p. 370):

"The President of the French Republic visited the Pasteur Institute on February 10, and Dr. Roux was able to show him cultivations of the plague microbe. In the course of his remarks to the President, Dr. Roux observed that the microbe has little power of resistance, and is easily destroyed by antiseptics and by a temperature of 140°. He pointed out, however, that the plague bacillus had the power of retaining its vitality in the soil, and it is on account of this property that epidemics favored by dense population and insanitary surroundings are perpetuated in Eastern countries."

"According to the Rome correspondent of the *British Medical Journal*, there appears to be no doubt that Dr. Guiseppe Sanarelli has discovered the bacillus of yellow fever. He will publish an account of his discovery in the next number of a leading Italian hygienic publication, which will be issued in the course of the next few weeks. *La Nazione*, of Florence, has published an article, sent by a correspondent in Montevideo, which states that for some little time Sanarelli hardly believed in his success, but in August his experiments were so clear that he was certain of the discovery of the microbe, and he then occupied himself with the preparation of the serum. His experiments were very extensive; he vaccinated more than 2000 animals, including rabbits, goats, sheep, monkeys, and a few horses. The results of the treatment are definitely reassuring, and in October, 1896, he decided to announce confidentially to the President of the Republic of Uruguay the results that have crowned his studies in the origin and cure of yellow fever. If this remedy be efficacious, Dr. Sanarelli will obtain the reward of 150000 scudi (£30,000) offered by the Brazilian Government for the discovery of such a remedy."

A Pathogenic Diplococcus

At a meeting (March 16, 1897) of the Boston Society of Medical Sciences, Mr. R. T. Atkinson spoke on a pathogenic diplococcus which was isolated from a sub-acute inflammation of the testicle.

It is a moderate-sized diplococcus, occurring singly and in short chains and having a capsule which is retained after long cultivation on an artificial medium.

It is non-motile and stains readily with the ordinary stains as also by the method of Gram.

It grows best on blood-serum at the body-temperature, the growth appearing after twelve hours as a homogeneous, colorless, transparent, moist, elevated streak, resembling in consistency the white of egg.

Individual colonies appear as small, colorless drops of more or less rounded outline which may attain a diameter of 2 or 3 mm.

The growth on serum agar, sugar agar, plain agar and gelatine is of the same character but less abundant.

On potato the growth appears as a slight moisture not appreciably elevated above the surface.

It turns litmus milk a pinkish color, but there is no coagulation.

There is no growth in bouillon.

It does not liquefy gelatine, is facultative aërobic and does not produce gas.

Inoculated into the peritoneal cavity of rabbits and guinea pigs it causes death in a few days from an extensive peritonitis, the exudate of which is abundant, thick, viscid and transparent, with a few yellow flakes.

Inoculated into the ear vein of a rabbit it causes death in nine days.

Inoculated subcutaneously in guinea pigs and white mice it produced an abscess at the seat of inoculation and death after a few days.

The diplococcus was recovered in pure cultures from the organs of all the animals inoculated.

The organism which it more closely resembles is the pneumococcus (Micrococcus lanceolatus), from which it is to be distinguished by the size and appearance of its colonies, by the absence of growth in bouillon and by its retaining its capsule through many generations of cultivation on artificial media. B.

Diplococcus Tussis Convulsivae

Dr. Ritter (*Arch. f. Kinderheil*, Vol. XXI, p. 389, 1897) examined the expectoration of 147 cases of whooping-cough, and found this diplococcus invariably present. The diplococcus develops on agar within twelve to twenty hours as fine, entirely circumscribed, isolated, round little bodies. Its vitality weakens very rapidly outside of its natural nutrient soil, and after the third or fourth reinoculation, or one week after its primary inoculation, every effort at successful transplantation remains fruitless.

Differentiation of the Typhoid Bacillus and the Microbe of the Infectious Parrots

MM. Widal and Sicard have found that the bacillus of typhoid fever and that of infectious parrots may be differentiated rapidly and with the greatest ease by their respective agglutinating reaction in the presence of immunized serum. (*La Sem. méd.*, No 61, p. 488).

If the serum of a man affected with typhoid, be mixed with a young culture of the infectious parrot bacillus in bouillon, in the proportion of 1 to 10, microbic masses are seen to form, which are usually smaller and more compact than those obtained under the same conditions when Eberth's bacillus is used.

When the mixture in the bouillon culture is in the proportion of 1 to 20, 1 to 30, or 1 to 40, a time comes when the masses are no longer found in the case of the parrot bacillus, whereas when the dilution is made in the same proportion of the same serum, with typhoid bacilli, the masses show very clearly.

If instead of using the grown bacilli, the just developing bacilli be substituted, the differentiation is more brilliant. If a mixture of typhoid serum and pure bouillon in the proportion of 1 to 40, or 1 to 60, be scattered over some tubes with a trace of typhoid culture, and over others with a trace of an active culture of the parrot bacilli, one can distinguish at first glance, after only a few hours' stay in the incubator at 37°C. a decided turbidity in the tubes inoculated with the microbe of the infectious parrots, whereas the tubes inoculated with the typhoid bacillus are clear, transparent, and at their bottoms are masses of whitish flocculi.

Microscopic examination of the culture

of the infectious parrot bacillus showed a few scattered masses lost in the great fields of bacilli which had remained isolated and which had preserved for the greater part their mobility.

The typhoid culture showed under the microscope large agglutinated masses of Eberth's bacilli, disposed in islands and separated by wide spaces.

This differentiation, the authors think, is one of incontestable value. The agglutinating action of this serum is not rigorously limited to the infecting microbe; it reacts in different degrees to the allied forms of the infecting bacteria; the bacteriologist should study the conditions in which the agglutination differs and in which lies a means of differential diagnosis. V.

The Bacillus of Friedlaender in Pharyngitis and Tonsillitis

Nicolle and Hébert have published an account (*Annales de l'Institut Pasteur*, January, 1897) of the occurrence of the pneumobacillus of Friedlaender on the throat of patients suffering from tonsillitis, follicular tonsillitis or membranous pharyngitis. Upward of 1600 serum tubes inoculated from the throats of patients were examined by them, and they found the pneumobacillus of Friedlaender eight times; six times alone. Since November, 1894, upward of 500 serum tubes inoculated from the throats of patients in the wards or out-patients of Guy's Hospital, have been examined by W. C. C. Pakes (*British Med. Jour.*, March 20, 1897). In five cases Pakes found the bacillus of Friedlaender; twice it was found on the surface of the serum in pure cultivation, twice in association with the Klebs-Loeffler's bacillus, and once with the Staphylococcus aureus.

In each of the three cases which were not pure on the serum, the author (Pakes) succeeded in obtaining pure cultures on the second sub-cultivation by inoculating three agar tubes from the once inoculated spatula. The morphological characters which they exhibited were:

1. Non-motility. 2. Polymorphism. 3. Decoloration when stained by Gram's method. 4. The presence of a well-developed capsule, especially when taken from the heart blood of the inoculated mice after death.

The culture characters were as follows:

1. Whitish, semi-translucent, sticky growth in bouillon.
2. Aërobic and anaërobic growth in gelatin, causing no liquefaction.
3. Whitish, moist, raised growth on slanted gelatin, the growth slipping to the bottom of the tube after four or five days.
4. Abundant gas production in glucose gelatine shake cultivation.
5. Slimy and almost transparent growth on agar and blood serum.
6. Formation of acid in dilute lactose bouillon.
7. Coagulation of milk in acid reaction (in four cases before the ninth day, in one case on the eleventh day).
8. Brownish abundant growth on potato.

Pathogenicity.—Mice were inoculated at the root of the tail with a small quantity of a young agar culture from each case. In two cases the mice were dead on the second morning; in the other three cases they were dead on the third morning. The typical capsulated bacilli were found in the heart blood and spleen of each mouse, and from the heart blood pure cultures were recovered. B.

On the Contagiousness of Leprosy

La Sem. méd. (No. 61, p. 490), reporting a meeting of the Berlin Medical Society, gives the opinions of several of those who discussed the subject of the contagiousness of leprosy, as follows:

M. Liebreich says he is not at all convinced of the contagiousness of leprosy; that people confound too easily the ideas of contagion and infection. He thinks cantharidine the only substance capable of exerting any action on leprosy. He says the possibility of the transmission of leprosy through the nasal mucous membrane is purely hypothetical and rests on not a single fact.

M. Von Bergmann mentioned the fact that he kept for two years a leprous domestic who had communicated the disease to no one. It was remarked also that Danielson inoculated himself and nine other persons with a leprous nodule without ever succeeding in transmitting the disease.

M. Blaschko believes firmly in the contagiousness of leprosy; he thinks, however, a train of unusual circumstances are necessary to transmit the disease and that many people enjoy a real immunity to it. He believes that the leprous nodules contain bacilli, but is uncertain whether or no these bacilli are alive, and especially whether or no they are virulent.

M. Havelburg says in Brazil everyone is convinced that leprosy was brought to that country by the Portuguese, and that the disease is contagious. He says as to the use of cantharidine, in the hospital of Rio-de-Janeiro, where it was tried for six months, it gave no other results than to cause albuminuria in several patients. V.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.,
DAVID M. STÄBLER, M D.

The Tuning-Fork as a Therapeutic Appliance

E. N. Maliontine, of Moscow, announces, in the *Sem. méd.*, Jan. 20, ref. *Jour. Amer. Med. Asso.*, that the tuning-fork, struck and applied to the vertex, transmits its vibration to the vocal chords, and causes them to vibrate in unison. He cured, in this way, with vocal exercises, a case of hysteric aphonia, that had resisted all other treatment, including suggestion. He adds that the process might be found effective in training and improving the voice of singers.

Tannoform in Surgery

Dr. N. Zuntz has made comparative experiments to determine the therapeutic properties of tannoform. He made small wounds of equal size and depth on symmetrical places in the skin of animals, and then treated them, directly, or after first infecting them with pathogenic germs, with various substances to be tested. Tannoform was first compared with its two component parts, tannin and formaldehyd. Of four wounds, one was dressed with tannoform, one with tannin, a third with an indifferent powder containing varying proportions of formaldehyd, and the fourth with a mixture of tannin and formaldehyd. The tests showed that tannoform possesses properties different from those of either of its two components, as well as from those of a mixture of the two. Pure tannin considerably disturbed the growth of the tissues, and formaldehyd, either diluted with indifferent powders or mixed with tannin, developed decided caustic properties. The healing of the wound with tannoform took place as with iodoform, aristol, nosophen, and other similar preparations.

Upon man, the author has obtained excellent results from the use of tannoform in hyperidrosis and bromidrosis, especially of the arm-pits and of the feet. This medicament seemed to him to be more certain and pleasant in its action than any other remedy used in these disorders. Dilutions of formaldehyd, which were similarly tried, had to be given up on account of the eczematous irritation they produced. Tannoform, rubbed in its pure state into the skin, occasioned no evil secondary effects.

Dr. Behrend, who has employed tannoform in the treatment of chronic ulcers of the leg, states that this remedy induces granulation, as does iodoform, but without occasioning eczema of the surrounding skin, as the latter often does; it also possesses the advantage of being odorless, and may be applied, like iodoform, only more freely.

Dr. Frank states that he has obtained excellent results from the use of tannoform in the treatment of hyperidrosis and bromidrosis; especially in the form of a dusting powder for the feet. From four to six days' use of the remedy produced a decided effect. In his hands tannoform proved, in connection with applications of formaldehyd, very effective in the treatment of watery ulcerations. In this connection, Dr. Frank remarks that, as soon as the purulent ulcer has changed to a pure granulating surface, the application of formaldehyd should be discontinued, as this remedy then acts as an irritant. One or two applications caused balanitis to heal up with astonishing rapidity.

Dr. Zuntz concludes by saying that, judging from his own and others' experiences, tannoform is a peculiar desiccant antiseptic, that possesses a strong therapeutic action not possessed to the same extent by any other remedial agent known to him.

Ovariin in Epilepsy

Dr. Karl Bodon, of Budapest, gives (*Deut. med. Woch.*, XXII, p. 727) interesting details of a case of epilepsy in a girl of 18 years of age, in whom the disease had first shown itself at the age of 14. Since that time the attacks were of two kinds, severe and mild, the former being ushered in with a shriek and sudden collapse, followed by unconsciousness and rigidity, eyes open, the pupils turned upwards, convulsions of the limbs, trunk, and head, and frothing at the mouth. After the subsidence of the symptoms, sleep set in, and upon awaking, no recollection was had as to the experiences gone through. When mildly attacked, she suddenly sank down, but without losing consciousness, and immediately arose, as if nothing had happened. At times, two or three such mild attacks followed each other rapidly; at other times, several hours intervened between them. The patient had been treated by specialists and others, and had gone through the usual bromide treatment without deriving any benefit from it whatever. It was at this juncture that Dr. Boden prescribed ovariin, being induced to do so by the considerations that the trouble has set in about the beginning of her menstrual periods, and that the menses were deficient in quantity, therefore ascribing the disease to some obscure irregularity in this direction. Merck's ovariin was given in tablet form, beginning with one for the first day, and then increasing to three, six, eight, and finally ten per day. It was noticed that no severe attacks were had during the taking of the ovariin, and that the mild attacks were reduced in number from fifteen per day to one or two, and frequently even none.

During this period it happened, too, that the supply of tablets was exhausted for eight days, and pending the arrival of the fresh lot ordered, bromide were given. There were three severe attacks during the time that no tablets were taken. When the ovariin tablets were again administered, the attacks ceased. It was observed, also, that the patient gained in weight during this treatment, the menses became more copious and the period lasted longer, and no unpleasant symptoms at any time accompanied the taking of the ovariin. The writer believes, therefore, that the use of this remedy in epilepsy, due to disturbed functions of the genital apparatus, may be productive of excellent results.

Serum Treatment of Diphtheria

Sidney Martin, in the *Lancet*, 1896, No. 3816, p. 1059, states that the beneficial results of the injection of the serum are not only seen in the tables of mortality which have been brought forward, but also observed at the bedside. 1. It stops the growth of the membrane. In an ordinary pharyngeal case the effect is not usually seen for twelve or even twenty-four hours, and during this time the membrane may even spread. At the end of this period the spread of the membrane ceases, and this either shrivels up and separates after a few days, or it becomes pultaceous and is washed away by the spray. The rapidity of disappearance of the membrane varies somewhat in different cases. In laryngeal cases a similar result is observed, and the ease with which those cases in which membrane has not already spread to the bronchi convalesce is sometimes remarkable—a result not attainable by any other treatment. Even in pharyngeal cases which are ultimately fatal the membrane rapidly disappears from the throat after the injection of antitoxin. 2. In no instance has it been observed that a case which was simply pharyngeal on admission became laryngeal and necessitated tracheotomy. This used to occur sometimes, but has not been observed since the cases have been treated by antitoxin. More than this, cases have been admitted with pharyngeal diphtheria and laryngeal symptoms and have had antitoxin, and recovered without tracheotomy. One case of a child was particularly worthy of note, as it was thought on admission that tracheotomy was urgently required. The patient received the antitoxin (a large dose) at night, and was so much better in the morning that no operation was necessary, and convalescence was rapidly established. 3. No cases have proved fatal unless they were severe on admission. 4. A day or two after the injection patients usually lose that earthy pallor which is so frequent in diphtheria, and their natural color in part returns.

The injection of antitoxin being therefore of benefit to the patient suffering from diphtheria, aiding him in his struggle against the infection, how is the remedy best applied so as to get the best results? 1. As the result of experience, the author would say never inject less than 4000 normal units of the serum. The dose ought not to be reckoned as so many cubic centimeters, but as so many units. We are rather behindhand in this matter, but it will not be long before the profession will be able to give a large dose in a small compass, i. e., 4000 or 5000 in 5 c.c. 2. Make only one injection at the first time of seeing the patient. Do not go on giving small injections, but give all you want to give in one dose. In the rare cases of relapse a second dose must be given. Give it in every case and do not wait until the case gets severe. 3. Lastly, give it as early as possible in the case. Do not "try other remedies" before resorting to it. And as the antitoxin does no harm, it cannot matter if one or two non-diphtheritic cases have an injection. In future a good supply of strong serum will no doubt be obtainable, and, it is hoped, will be the only kind of serum that will be permitted to be sold. If the bulk of the medical profession uses this we shall, the author feels certain, find a great reduction in the mortality from the disease.

Glutol (Schleich) in the Treatment of Wounds

According to the *Ther. Gaz.*, Thomalla, in *Ther. Mon.*, Jan., 1897, states that for many months he has used formalin-gelatin (glutol) as a surgical dressing applied to neatly apposed incisions which have been kept clean. The results are about the same as those noted under other dressings, *i. e.*, prompt primary healing. When used as a dressing to ragged and irregular wounds which cannot be neatly apposed, suppuration does not occur. Necrotic fragments quickly separate, and cicatrization takes place more rapidly than under other dressings. When wounds are suppurating and are not thoroughly drained, the use of glutol is not satisfactory, since a scab quickly forms beneath which pus collects. It is well under such circumstances to remove a part or the whole of the crust and again apply glutol to the wound surfaces. In this way suppuration is quickly limited, and the healing is prompt. It is not necessary to remove the entire crust, but only a sufficient portion to allow the free escape of the retained secretion.

Glutol is especially serviceable in the treatment of burns. Originally Thomalla removed the scabs, but as suppuration never took place, he allowed them to remain, and has never had infection, excepting in one case, the wound cicatrizing rapidly. This one case was a burn of the foot which was prevented from healing by the rubbing of the shoe. His reason for letting a scab form and remain for several days, in the treatment of burns, is based on the fact that when suppuration does not take place a breaking up of the glutol and a setting free of the formalin is not required, while the scab acts as an excellent protective to the surface below. Glutol is also advised in all those small wounds which cannot be conveniently bandaged—for instance, such as are inflicted on the fingers and hands of workmen who continue their occupation. Glutol is sprinkled on the wound, and over this is painted collodion. On the collodion is sprinkled another layer of glutol, thus forming a watertight scab. In no instance was there suppuration or growth of proud flesh. The author holds that glutol is the best antiseptic which the surgeon can use in the form of a powder, and that it has an extremely wide range of application.

Therapeutic Applications of a New Coal-Tar Preparation

A. Sack (*Sem. méd.*, 1896, No. 51, p. 411) has lately been using a new preparation of coal-tar in the treatment of divers dermatoses with advantage. The liquid, whose formula is as follows, represents a perfect solution containing all the constituents of coal tar:

Coal-Tar	10 gme.
Benzol	20 gme.
Acetone	77 gme.

This mixture has an agreeable, aromatic odor, and is not in the slightest degree irritating to the skin. Applied by means of a brush, it rapidly evaporates, leaving a thin, homogeneous, yellowish coating of tar, that is removed only after several washings.

The paintings with the tar-solution have given excellent results in eczemas, particularly in those accompanied by intense pruritus and extended lichenification, in herpes tonsurans, in parasitic sycosis at the period of the decline of the pustules, in dyshydrosis, and in divers seborrheic affections, particularly of the hairy scalp.

In dermatoses attended with considerable hyperkeratinization it is necessary, in order to soften the horny substance, to incorporate salicylic acid, either with or without the addition of resorcin, with the solution of tar, and the following formulas may be used for this purpose:

1.—	Coal-Tar	10 gme.
	Benzol	20 gme.
	Acetone	77 gme.
	Salicylic Acid	5 gme.
2.—	Coal-Tar	2 gme.
	Benzol	4 gme.
	Acetone	16 gme.
	Salicylic Acid	2 gme.
	Resorcin	8 gme.

The first of these preparations is employed like the pure solution of tar; the second serves to replace the pastes intended for removing the crusts from the eruptive patches.

Quinine Sulphovinate Hypodermatically

Alex. K. Finlay (in the New Orleans *Med. and Surg. Jour.*, XLIX, p. 200, 1896) recommends for hypodermic use quinine sulphovinate, as it possesses the merit of free solubility, with freedom from annoying after-effects, since it requires only about 3 parts of water for solution. Its quinine strength is about equal to that of the sulphate, and an ordinary hypodermic syringe will contain a full dose of the concentrated solution. It is not desirable to dispense it in tablet form, as it is rather slowly soluble in that shape. Gentle warming serves to dissolve the crystals in a few seconds, and the solution keeps indefinitely, especially when a small proportion of alcohol is added.

The advantages of quinine sulphovinate are: facility of exhibition hypodermatically, and complete immunity from abscesses following its use.

The Further Progress of Organo-Therapeutics

Dr. Freyhan, in the *Monatssehr. f. Geburtsh. u. Gyn.* (Vol. V, No. 2, 1897), by reviewing the most important literature on this subject of the last two years, shows that thyroid extract, first introduced by Brown-Séquard, is the most promising of all organic remedies employed. Its effect on myxedema, cretinism, and strumous affection of the thyroid gland is especially pronounced. Good results have also been obtained from its use in obesity, morbus Basedovii, diabetes, and tuberculosis, while its efficacy in the treatment of rachitis, psoriasis, and tetanus is very doubtful. It is best administered in the form of thyroidin.

REVIEWS

Diseases of the Ear, Nose, and Throat and Their Accessory Cavities: A Condensed Text-book.—By Seth Scott Bishop, M.D., LL.D., Professor in the Chicago Post-Graduate Medical School and Hospital, etc., etc. Illustrated with 100 colored lithographs and 168 additional illustrations. One volume; royal octavo; pages xvi + 496. Philadelphia: The F. A. Davis Co. Price $4.

It seems to the reviewer unfortunate that the author has tried to combine two such important subjects in one volume of 496 pages. It seems equally unfortunate that over two-thirds (277 pages) of the work should be devoted to the nose and throat, and only one-third (183 pages) to the ear. This being the case, we should expect the title of the book to be the reverse of what it is.

From the aurist's standpoint there is much to criticize. The author states in his preface that he has consulted the more recent works on otology, etc., but we fail to find mention of several important and recent works on the ear, among which might be named those of Dench, Ball, McBride, Marmaduke Shield, etc.

Of the work proper, Chapter I deals with general considerations of diseases of the ear, nose, and throat. Chapter II, "Examination of Patients." On page second of this chapter will be found two striking illustrations of what we presume to be the interior of the author's consulting-rooms, "with Professor Adam Politzer's portrait in the background." So far we have nothing to criticize.

Under the head of "Tests for Hearing," the author deals with the subject in almost as brief a manner as he handled the anatomy and physiology of the ear; we hope, however, not for the same reason, for of all the difficulties to be encountered by the aurist, none are greater than the deductions to be drawn from the various tuning-fork tests. Likewise, none are more important, both as concerns the diagnosis and prognosis of the individual case.

What has been said of the tuning-fork tests, is equally true of Galton's whistle, which is described, discussed, and dismissed with but five lines.

In speaking of treatment of diseases of the middle ear, the author felt constrained to condemn the Eustachian catheter, of which he speaks as follows: "It is—in my practice, at least—relegated to the company of instruments rarely honored by use." Why not have employed the words of our ex-President, and said, "relegated to 'innocuous desuetude'"?

So, too, does the author condemn the employment of iodine vapors in chronic middle-ear catarrh, claiming that so much irritation attends its use, and so little perceptible good has been derived, that he has discarded it. The common use of iodine vapors by Eastern aurists, and our own experience, lead us to question the accuracy and propriety of this sweeping statement.

In dealing with massage of the middle ear, the author evidently prefers the pneumatic method, which is done by a modification of Siegle's otoscope. The only reference to a direct vibration of the ossicular chain is the one in which he refers to Lucae's pressure-sound. He utterly fails to take into account the good work done in this direction by J. C. Lester, of Brooklyn, and Gournauet, of Paris.

The chapter on Mastoid Operations, as well as the illustrations, are to be commended. The typographical illustrations are also well executed and exceedingly valuable. They are diagrammatic, and hence instructive. Perhaps no portion of the work will be read with greater pleasure and benefit than this chapter. The fine half-tone cuts, illustrating various stages of healing of mastoid wounds, call for especial mention, and in so far as we know are unique in a work of this kind.

That portion of the book dealing with diseases of the nose and throat is particularly valuable, and, as said before, is far superior to that of the ear. Many of the illustrations are taken from Sajous, who receives due credit.

From a typographical standpoint, the book certainly reflects credit upon its publishers.

An Infant's Weight-Chart.—By Dr. J. P. Crozer Griffith, Clinical Professor of Diseases of Children in the University of Pennsylvania.

These excellent charts cost but very little, viz., 50 cents per pad of 25 charts, and will be found exceedingly convenient. The simple and concise manner in which they are constructed makes them most desirable sheets for those who wish to keep a record of a child's weight from the time of its birth. Spaces are provided whereby daily records may be kept. The chart is certainly to be recommended.

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CORRESPONDENCE

Connell's Suture

To the Editor of the A. M.-S. BULLETIN:

Under the head of "Intestinal Suturing," in the BULLETIN of April 25, it is said "that the chief methods of intestinal sutures are: Dupuytren's, Gely's, Cushman's right-angled suture, Lembert's, Czerny's, Halstead's, and Semi's modification of Jacob's method." It has occurred to us that the writer has been somewhat remiss in this instance, while enumerating the most useful intestinal sutures, not to include Connell's sutures, or double sutures. In my experimental work I have tested all of the above, and have used the Lambert, Czerny, Gely and Halstead sutures on the intestines of the human body, but for ease of employment, simplicity, security, and safety, I have found none equal to Connell's. There are some *theoretic* objections against its employment, as there were for centuries against intraperitoneal operations; but the practical value of a thing is what decides its real worth. Thus, in the *Annals of Surgery*, April 1, 1897, is reported a case in which after resecting 26 inches of a gangrenous intestine, I employed successfully this valuable expedient in restoring the continuity of the intestinal canal, by a lateral anastomosis. It obviates the necessity of using any description of apparatus. A strong cambric needle, with firm suture material, of either hemp, silk, or cotton, only, are needed.

THOMAS H. MANLEY.

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Dr. Stewart, of the New York Medical League, gave the State Board of Charities some startling statistics when he lately appeared before that body. He says that 750,000 people have been treated free of cost in New York City in one year, that New York pays $40 per annum as against $1 per annum in Paris for treating the indigent sick.

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Editor: ROBERT G. ECCLES, M.D.

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EDITOR'S NOTES

It is a standing rule of most journals that authors who wish manuscripts returned must inclose stamps. The BULLETIN has been very lax in enforcing this rule in the past much to the cost and discomfiture of the editor. Hereafter it is our intention to pigeon-hole every paper that reaches us without return stamps, and after a few weeks consign it to the waste basket unless postage is forwarded for its return.

We are in frequent receipt of manuscript articles from medical writers on subjects that, by the plan of the BULLETIN, belong in our abstract departments. Many of these articles are very good, but not being of the kind we want as original papers we are compelled to return them to their authors. Reports of cases whether rare or common and methods of managing such cases, if sufficiently condensed, will always find a welcome and be placed as abstracts in our journal. Our department of Original Papers we intend to devote exclusively to new and well-sustained medical generalizations, reports of well-planned and well-executed experiments that aim at answering some interesting medical question and articles that mark some distinct and important advance in medical science. Such papers we know are scarce but we are willing to wait for them and while waiting select from scientific and medical literature the very best we can find. Our readers will appreciate this plan as it certainly will be much better for them than filling our space with clinical reports padded out with words to make them appear ponderous.

Bacteriologists in Bombay have lately discovered that the bubonic plague assumes the form of ordinary pneumonia. A number of deaths have occurred there from pneumonia, in which an examination of the blood has shown that the patients really had the plague, although free from marked glandular swellings. This is but further evidence of the fact that disease is relative. There are as many kinds of pneumonia as there are kinds of germs capable of invading the lungs and setting up an acute inflammation therein.

The Montreal correspondent of the London *Lancet* of May 8 makes a rather amusing blunder in explaining the action of the New York medical journals in warning American physicians against going to Montreal. He says that it was due to their fear of the effect of the Montreal meeting on the Philadelphia one. Had the writer known the attitude of some of these journals toward the American Medical Association he never would have penned such a claim, and it certainly is not true of any of them. The BULLETIN gave the warning as it found it in the medical journals of Canada and Great Britain.

Ellen B. French, of Janesville, Wis., lately bequeathed $5,000 to Beloit College on condition that they never tolerate vivisection. It is to be sincerely hoped that Beloit College will not muzzle or paralyze itself for the sake of so beggarly a sum. Why is it that women are always and in every age the most active in applying the brakes to human progress? In commenting upon the Beloit College legacy, the Boston *Advertiser*, misled by the same antivivisection lies as had no doubt directed Mrs. French, spoke of "the reckless, heartless, wanton, shameful riot of cruelty that takes place, and in spite of all denials has been proved time and again to have taken place, in or in connection with some medical colleges." Dr. H. P. Bowditch replied to the *Advertiser*, and declared that to his knowledge such language was wholly uncalled for and incorrect so far as this country is concerned. Next day the editor of the *Advertiser* replied to the doctor, citing antivivisection literature as his authority. This editor evidently has not yet discovered that quotations from such a source are always either utterly false or else distorted by being garbled. They seldom make any distinction between the experiments of psychologists, pure physiologists, pathologists, bacteriologists, and therapeutists. They charge all up to medical colleges without regard to character or kind of experiment. When asked to give definite dates, facts, places, and ostensible or real objects of experiments cited, they always break down. They quote and quote and quote from book to book and year to year until every trace of the original source or intent is lost. The contents of their pamphlets are like a mass of scandal that has gone from mouth to mouth and been added to and taken from by hundreds.

It is scarcely a century since the anti-dissection cranks fought medical men and endeavored to prohibit all dissection of dead bodies. Cruel laws were passed that made it a terrible crime for any one to dissect. No bodies could be had except by stealth. Our fathers fought their way through this epidemic of sensational bigotry until there were enough sane people in the world to put a stop to such folly. The same kind of people, with the same kind of arguments, are now antivivisectionists. Their sensationalism is of the same old contagious type. Imbued by the same spirit as the editor of *Antivivisection*, the old anti-dissectors thought that doctors who could not get enough knowledge of anatomy from antiquated charts should change their means of livelihood. They, too, held that if a man's honest opinions were in direct opposition to what they called justice and humanity he must be debarred from proceeding in accordance with such an opinion. They held that to believe that dissecting was right incited "to unholy impulses and acts" that should not be permitted. The editor of *Antivivisection*, in the June issue, makes a lame defense of the intolerant pledge to which the BULLETIN lately referred. Witch-burners, heretic-burners, and intolerant people in every age have fought the spirit of liberty in precisely the same manner. Does the editor not see that the defense is no defense at all, but as pretty a *petitio principii* as ever was perpetrated. It is the antivivisector and not the vivisector whose opinion is "in direct opposition to the accepted tenets of justice and humanity." This, of course, people who are ruled by feeling instead of intelligent thought will not permit themselves to see. The antivivisectors, in the name of mercy and humanity, seek to perpetuate cruelty unspeakable, just as the French fanatics, in the name of liberty, sought to fasten on mankind the chains of intolerant slavery.

We are surprised to find as intelligent a man as the editor of the Boston *Herald* unable to see the facts in the Cincinnati antivivisection affair as they really are. In his issue of May 16 he undertakes to abuse Dr. William Judkins as an inhumane man "who carves up live animals." What was there inhumane in Dr. Judkins' ideas? The editor of the *Herald* would have the Humane Society smother the vagrant curs and Dr. Judkins would kill them under ether or chloroform. In one case they would die by painful suffocation and in the other by painless anesthesia. The editor of the *Herald* would have students practice abdominal surgery after trying their untutored skill on human beings, where no professor would be near to direct them. Dr. Judkins would have them acquire skill on homeless curs condemned to death by the Humane Society. Will the editor of the *Herald* honestly tell us whether or not he would be willing to have his life saved in case of rupture of his intestines, by a doctor who had acquired his skill in such a manner? Will he further tell us which of two physicians he would prefer to have perform the operation, one who had tried it on homeless curs or one who chose him for a first attempt? The editor betrays his ignorance of what he is talking about when he says "this doctor retorts that his use of animals in operations which he renders painless (that is always claimed!) is not half as cruel, etc." Why the interjected words "that is always claimed"? Does he mean to say that Dr. Judkins is telling an untruth? If Dr. Judkins did not render this operation painless he would not be able to accomplish what he aims at. Dr. Judkins has two alternatives placed before him: Either he must turn out students incapable of saving human life when such an operation is called for, or he must teach them in this way. He believes it to be his duty to turn out capable men when the cost is merely in choosing for the poor dogs a painless instead of a painful death. Is it any more "brutalizing" or "revolting" to cut up unconscious dogs than to cut up human beings?

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The case is reported of a child, in whose nasal passages the Löffler bacilli persisted for fifteen months after diphtheria. Repeated washings would cause the temporary disappearance of the bacilli, but as soon as treatment ceased the germs returned.

PUBLISHERS' DEPARTMENT

UNGUENTINE

A fresh ointment is a useful remedial agent—a rancid one can do much damage. The demand for a thoroughly antiseptic ointment is recognized generally, and the Norwich Pharmacal Company presents its Unguentine to the profession as an ointment meeting this requirement. To a pure petrolatum base are added Lister's sheet anchor, carbolic acid, and ichthyol. This is a modification of Sir Astley Cooper's valuable formula. When Unguentine is applied to a wound or other lesion it forms at once a thin film which completely excludes the atmosphere and prevents bacterial invasion, making it an unexcelled surgical dressing.

KELENE; MEDICINAL AUTOSPRAYS; FORMOCHLOROL

Kelene is a very pure chloride of ethyl, invaluable as a local anesthetic. A "colder" spray can be obtained by a mixture of chloride of ethyl and other products (methyl chloride, etc.) of a lower boiling-point, but, although the freezing action is sooner produced, most patients complain of a painful sensation. This is avoided by the use by pure chloride of ethyl or kelene.

Medicinal autosprays are solutions of medicaments in a liquid of low boiling-point contained in glass tubes having capillary outlets through which the liquid can be forced by the elastic tension of its own vapor. On removing the cap and inverting the tube, a fine spray can be directed against any part requiring medication The solvent evaporates immediately, leaving the medicament thinly distributed in a uniform layer. When not in use the tube is closed by a metal cap which prevents loss by evaporation.

It is well established that formaldehyd effectually destroys all pathogenic germs and acts to the greatest advantage when employed in the state of dry vapor. Trillat, who is really the father of formaldehyd disinfection, discovered the process by which formaldehyd gas can be generated on a large scale in a dry form. This is accomplished with an autoclave and a specially prepared solution of formochlorol. By the Trillat system the disinfection can be conducted from the outside so that the attendant is not compelled to enter an infected apartment. Numerous experiments have shown that it is an ideal system for superficial disinfection.

Fries Bros., whose advertisement appears on another page, will in a few weeks publish a pamphlet on formaldehyd disinfection. This can be obtained by any physician making application for the same.

◆

A doctor of Rhinebeck, N. Y., was lately fined $50 for failing to report cases of diphtheria, but has appealed from the decision.

The Supreme Court of Illinois has rendered a decision that the State Board of Health cannot compel school-children to be vaccinated, nor exclude them from school if they are not vaccinated. Senator Mahoney, for the purpose of overcoming the evil results of this ruling, has introduced a bill into the legislature giving the right to the Board to exclude from the school all non-vaccinated children.

NEWS

The next place of meeting of the American Medical Association will be at Denver, Colorado.

President McKinley addressed the American Medical Association on Wednesday, June 2d.

A movement is on foot in Philadelphia to abolish street noises. Dr. Geo. M. Gould is taking an active part in the same.

The total registration of members and delegates at the Philadelphia meeting of the American Medical Association was 2,158.

Japanese women are agitating the question of suffrage, are about to erect a woman's university, and many of them are already practicing medicine.

Surgeon-General Sternberg, of the United States Army, has been elected President of the American Medical Association for the coming year.

The lunacy commission of New York is reported by the New York *Press* of May 9 as fitting up a laboratory for the study of the toxic causes of insanity.

The city laboratory of St. Paul, Minn., has offered to make free bacteriological examinations of sputum for all patients too poor to pay for that service.

A journal devoted to the advancement of the application of the X-rays in medicine and surgery has been started in Paris, France, and another in St. Louis, Mo.

The New Hampshire Medical Society has just held its 106th annual meeting in Concord. How many medical associations in this country can match it for age?

The Health Department of Baltimore, Md., will hereafter make systematic bacteriological examinations among pupils of such public schools as have cases reported from.

The marshal of Berkeley, Cal., is having hard work trying to enforce the law that forbids Chinamen squirting water from their mouths on clothes they have in their laundries.

The Camden, N. J., District Medical Society is reported as having dropped Dr. Joseph F. Walsh from honorary membership and without a trial, because he acted as counsel for an accused physician.

The Pittsburg (Pa.) *Leader* is responsible for the charge that in that State incurable and dying patients are sometimes turned over to the poor authorities by the hospitals in order to keep down their death-rates.

Governor Stephens, of Missouri, has been charged with appointing a relative of his own as manager of the Fulton Asylum, and now posing as a friend of homeopathy because this relative happened to be a homeopath.

W. B. Bradbury, of San Francisco, is again under arrest for spitting upon the doors of street-cars. He is the rich man who has defied the law and who proposes to prove that free Americans have the right to spit where they please.

The National Anti-Vaccination Society and the Anti-Compulsory Vaccination League of

Pennsylvania held a joint convention in Philadelphia during the week of May 17. A large number of eclectic physicians took part in the meetings.

Between stopping runaway horses, acting as presiding officer of the Philadelphia Commercial Museum, showing President McKinley around and looking after the visiting physicians, Dr. Pepper had a lively time of it on June 2d and 3d.

The London *Times* says that the British Government contemplates introducing a bill to make vaccinating free, thus imitating the method adopted on the continent of Europe. They intend to investigate the methods of France, Belgium and Germany.

The health board of St. Louis, Mo., is complaining about the number of physicians in that city who do not report contagious diseases to them. Some of them go so far as to assist families to hide the fact of the presence of such diseases by returning false reports.

On May 7 the Legislature of Florida was treated to a lecture on anti-vivisection by one of their number named Wall. Mr. Wall called medical men "Pill-drivers," and said he was not surprised at their supporting vivisection. His resolution was tabled by a vote of 37 to 16.

Messrs. Parke, Davis & Co., of Detroit, Mich., lately demonstrated to half a dozen members of the Michigan House of Representatives that the so-called vivisection necessary for the production of anti-toxin is in no sense the cruel thing they had been led to believe it to be by anti-vivisectors.

In a lecture before the Franklin Institute, of Philadelphia, delivered by Prof. W. P. Mason, of Troy, the estimate was made that the loss to Philadelphia by typhoid fever cases within its limits amounted in value to an annual tax of $1,392,000. This loss, he claimed, could be easily prevented.

Gov. Stephens, of Missouri, is having a lively time, due to the attacks of medical men for his conduct in the Fulton Asylum change. He is threatened with an investigation and retaliates by threatening to place every medical place in the State that is under his control in the hands of the homeopaths.

The Philadelphia *Telegraph* of May 21 says: "A number of widely divergent interests are anxiously awaiting the action of Governor Hastings on the bakeshop bill, providing for the sanitary inspection of bakeshops and regulating the hours of labor therein, which has passed both branches of the State Legislature, and is now awaiting the gubernatorial signature.

The New Haven *Palladium* says that doctors from other States are now rushing into Connecticut to get registered before the new medical act goes into effect. By this act all doctors from outside the State must hereafter pass an examination as to their qualifications before they will be allowed to practice. No diploma of any kind will be accepted as an evidence of competence.

The Kansas Medical Society, at its late annual meeting, passed the following: "Resolved, That a committee of five, of which Dr. Eastman shall be chairman, be appointed and instructed to institute an inquiry for the purpose of acquiring evidence relating to the question of over-production of defectives and criminals, upon which to base a memorial to the Legislature of this State and the public of this country, and report at the next annual meeting."

The Kansas City *Star* does not want Missouri to have medicine injected into its politics. The editor says: "The unlimited coinage of silver will serve as a source of discord without tacking on the unlimited dosing of calomel. There is a sufficiency of acerbity and ill feeling and intolerance in our political contests now without further complicating matters by taking up the row between two schools of doctors who disagree on the point as to what constitutes a proper dose of syrup of squills.

OBITUARY

Dr. Franklin Wayne Cutrikin, in Findlay, O., on May 18, 1897, aged 67 years. He was a prominent surgeon of Northwestern Ohio; graduated from the Medical College of Ohio in 1873, and was Emeritus Professor of Gynecology at Fort Wayne Medical College, and at the Toledo Medical College. Numerous medical societies claimed him as member. He is the author of "Woman's Monitor," and has contributed largely to medical literature. At the time of his death Dr. Cutrikin was surgeon of the Home and Hospital and local surgeon of the T. & O. C. Railway.

Dr. Benjamin Eddy Cotting, in Roxbury, Mass., on May 22, 1897, in his eighty-fifth year. Dr. Cotting was a graduate of Harvard University, and was curator of Lowell Institute for fifty-five years. He was, besides, anniversary orator of the Massachusetts Medical Society, as well as its vice-president (1872-74), and its president (1874-76). He was consulting surgeon to the Boston City Hospital, and a fellow of several societies, both in this country and abroad.

Dr. Joseph Cushing, in Brookline, Mass., on May 9, 1897, aged sixty years. He graduated from Wesleyan University in 1857, and from Harvard Medical School in 1860. He became high surgeon at the Massachusetts General Hospital, and also a surgeon in the field during the Civil War, and after the war he practiced in Boston and vicinity. Dr. Cushing was also a councilor in the Norfolk Medical Society, and was connected with the Children's Hospital and Deaconess Home.

Dr. W. T. S. Cornett, in Madison, Ind., May 6, 1897, aged ninety-one. Dr. Cornett was well known as a geologist. He graduated from the Transylvania University; served in the early legislatures of that State, and introduced in 1843-44 an amendment to a revenue bill to levy a tax of 1 cent on $100 to build the Insane Hospital at Indianapolis, which was the beginning of the care for the insane in that State. He was also the first president of the Indiana State Medical Society.

Dr. Hugh F. McNary, in Louisville, Ky., May 12, 1897, sixty years of age. He began the study of medicine under his father, and graduated from the Medical University of Louisville, and likewise from Harvard College. He served during the war under Dr. J. B. Flint. Later he practiced in Louisville for several years, but gave up his practice to accept the position as first assistant physician at the Western Asylum, Hopkinsville. At the end of two years he resigned and went to Princeton, where he practiced until he was appointed superintendent at Lakeland Asylum.

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EDITORIAL

THE JUBILEE MEETING OF THE AMERICAN MEDICAL ASSOCIATION

AT no other time in the history of our country was there ever so representative a body of American medical men convened as during the late meeting in Philadelphia. Very few physicians of wide reputation were absent, and every important medical society had some one present, either as delegate or permanent member. The reception by the citizens of Philadelphia was simply regal. Mayor Warwick tendered to the Association a warm welcome, spoke in high praise of physicians as a class, referred to Philadelphia as the home of medicine, gave the names of Gross, Pancoast, Agnew, and Leidy as evidence of the claim, spoke of the great usefulness of medical men, and deplored the fact that with many people God and the doctor are sought for in trouble, only to be forgotten or slighted in health. Governor Hastings, who was expected to be present on the first day to welcome the Association in behalf of the State, was unable to appear before the second day, but was represented at the opening by the Hon. Charles Emory Smith, ex-Minister to Russia. When the Governor did appear, he apologized for his delay, and among other good things said that Pennsylvania was greatly honored by the presence of so distinguished an organization. The event of the second day's session was the presence of President McKinley, who had just arrived from Washington. He was greeted with great applause, and after being introduced by Dr. Senn, he said:

"Mr. President, Ladies and Gentlemen: Although summoned to this city for another purpose, I deem myself most fortunate to find this honorable association in its semi-centennial convention, meeting on the same day, and I could not refrain from taking a moment from the busy programme mapped out for me by Dr. Pepper, whose assurance I had before coming here that it would be a day of rest (laughter), which I have already begun to realize (renewed laughter). I could not refrain from pausing a moment that I might come into this brilliant presence to meet the learned gentlemen here assembled and to pay my respectful homage to the noble profession which you so worthily represent. (Applause.) You have my best wishes, and I am sure all the best wishes of all our countrymen, for the highest results of your profession, and my warm and hearty congratulations upon this, your fiftieth anniversary."

It was evident from the remarks of both President McKinley and Governor Hastings that they sympathized with the Association and its work. Their remarks were of necessity put in an adroit and politic manner, but from the warm and whole-souled method of utterance it can be safely assumed that Regular Physicians have in both of these men sincere friends. Neither of them is tainted with the anti-scientific tendencies of the Governor of Missouri.

The address on "Medicine," by Dr. Flint, was very interesting but somewhat disjointed, in that it treated of two wholly unrelated subjects. All sense of symmetry was destroyed by the incongruous arrangement, and two first-class papers were injured thereby. The first part should have served as his address, and he could without trouble have extended it to proper proportions, while the second part would, by being delivered in the section devoted to that class of subjects, have proven itself one of the bst, or perhaps the very best, delivered. The address on "Surgery," by Dr. Keen, was an ideal one for the occasion, and we have taken the liberty of reproducing it for the benefit of our readers. We hope they will appreciate it as thoroughly as we did. The address on "State Medicine," by Dr. Hamilton, showed careful study and thorough familiarity with the subject, and a paper so excellent as it was will no doubt be preserved for reference by all who are interested in the relation of the State to the tuberculous. It is full of valuable and interesting statistics. The address of Dr. Davis at the jubilee exercises was confined to giving a history of the American Medical Association from its origin to the present time. At these exercises Dr. Smith and Dr. Stille, the two surviving founders of the Association, passed to the stage with an escort composed of the presidents of State medical societies and presidents of State boards of medical examiners. A double line of ex-presidents was so arranged that they passed between them on the way.

The work represented by the papers read in the different sections is immense. Never before, so far as we have been able to ascertain, has there been such activity. The number of papers presented as listed in the programme, was 593. This far exceeds the number presented at the fourth triennial session of the Congress of American Physicians and Surgeons. At that convention the total number was 348. Although the latter body is supposed to be composed almost entirely of specialists, there were fewer papers on special topics submitted at Washington than at Philadelphia. Only in one class of subjects did the congress take the lead, and that was in dermatology and genito-urinary surgery. At the Washington meeting there were forty-six such papers, while at the Philadelphia one there were only twenty-two. Many of the papers presented at each of the meetings were of first-class quality, and it would be impossible to say which had the largest proportion of such. Judged by the attendance, the number of papers, the crowding of the sessions, the enthusiasm displayed and the regions represented, we were forced to conclude that the American Medical Association is the more popular and more representative body. Large as was the attendance at the Philadelphia meeting, it would probably have been still larger if programmes had been sent out in advance to all the medical journals. Not to do so was a bad oversight on the part of some one. Another mistake was made in not having a list of the members at the place of registry. The clerks were compelled to refuse to register members that did not come with delegates' credentials unless the secretary happened to be there. As no one was permitted to enter the general sessions without a ticket of registration, this barred them from their rights.

The method of classifying papers in the various sections was excellent. Where more than one paper was offered on the same general subject a symposium was formed and each read in the order in which it logically belonged. Of course the absence of an author when his paper was called broke into this regularity, but this was not the fault of the officers of the sections. Supplementing this arrangement there were a number of set discussions on various interesting topics. These were participated in by the members and delegates present.

The subject that called out the largest number of papers was tuberculosis, and the one that caused most animated debate was the old, old story of alcohol. It appeared in a multitude of forms in different sections. The serum treatment of disease was likewise discussed animatedly. Indeed, the whole germ theory of disease came in for extensive consideration and was challenged as regards its truth by some of those present. In the section on State Medicine, Dr. Powell, of Los Angeles, Cal., had a paper entitled "The Germ Theory Disproved," and in the section on Diseases of Children, Dr. Lee, of Chicago, presented another on "The Physiologic Treatment of Diphtheria," in which he took issue with the germ theory. Dr. Lee's paper was answered by another from Prof. Klebs, of Chicago. The sympathy of the great mass of all those present was opposed to the positions taken by Drs. Powell and Lee. Their pleadings sounded like the last dying echo of the discredited past. In the struggle for existence the germ theory has alone survived. All others have perished. It is too late in the century for any person to come forward and attempt to deny its truth. Without doubt it is still quite imperfect and will have to be modified in many of its features, but this can only be done by research work in the laboratory, and not by reviewing facts that have already been assigned their true places by the consensus of the competent.

The Roentgen Rays were treated of more fully at the Philadelphia meeting than they were at the Washington Congress. In neither did they receive their meed of attention considering their importance and vast possibilities. There were eight papers presented treating this subject from various standpoints, and a great number of slight references. Nothing very new nor important was introduced in any of them.

Commodore Gihon, chairman of the Rush Monument committee, made a stirring speech at the first session of the convention that seems at last to have awakened interest in the project so dear to his heart. In it he referred feelingly to the beggarly results of thirteen years of unfulfilled promises, called their attention to the liberality of the homeopaths in erecting a $75,000 monument to Hahnemann, and reminded them of the fact that Marion Sims and Samuel D. Gross are both honored with monuments erected by their admirers, students and colleagues, while Benjamin Rush, the illustrious medical hero of the revolution, whose claims on the profession are so great, remains unhonored in this way. It certainly does not speak well for the Association, nor for medical men generally that Rush has gone so long without some fitting token of appreciation of his greatness and of the work he has done for humanity, for American freedom and for American medicine. Every patriotic American, every foe of human slavery, every advocate of mental freedom, and every friend of progress should be glad of the opportunity to honor such men as Rush. Dr. Gihon's speech evidently went to the heart of Dr. Graham, of Colorado, who at once moved that the Association raise $100,000 for Dr. Gihon's committee, he pledging himself to raise $2000 in his own State. Several other members from different States caught the contagion and made similar pledges. This resulted in the appointment of one man in each State to raise the required funds. If these pledges were not mere idle talk, then it should not be long before sufficient funds are in the hands of the committee to complete its long-deferred work.

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DOCTOR SENN'S PRESIDENTIAL ADDRESS

THE coincidence of the jubilee year of the American Medical Association with the sixtieth anniversary of the reign of Queen Victoria has started many of our writers, on both sides of the Atlantic, into studying and reporting the history of the progress of medicine and surgery for the last half century. With that bias that seems always to be associated with patriotism there has crept into these reports a tendency to attribute by implication all or most of the great gain that has been made, to the fact that Queen Victoria has been queen or that the American Medical Association has existed during these years. Of course everybody who stops to think upon the matter knows that the coloring of addresses and magazine articles under such circumstances is quite natural and excusable. No one pretends to take such coloring as serious scientific truth. All of the gain of the last fifty or sixty years would most likely have come to the world if there never had been a Victoria nor an American Medical Association. Indeed, it seems reasonable to suppose that the world might have had all of this gain if there never had been a British Empire nor a United States. Coincidence is not cause, but there is always a strong temptation to construe it as such if our desires run that way. In the presidential address of Dr. Senn there is a minimum of such coloring. The title he chose when compared with the contents of his address is evidence of such a leaning. The description of the past, present and future of the American Medical Association occupied but a small share of the time in the delivery of the address. It is true that the picture he exhibited was the story of the Association, but the frame was so large that it seemed a secondary consideration. Taken as a whole, it was a magnificent and inspiring production, even if it did have a little touch of spread-eagleism in it. The forces that created a medical literature for America, making it independent of the parent country, were the same as those that built up our country in its material wealth and that gave us an American Medical Association. The impulse that brought us a higher standard of medical education also brought the Association. The marked restless tendency of the American people in being shared in by medical men has demanded a more and more general diffusion of medical knowledge within the profession. Not to give way to this demand is now and has for years been to fail in the struggle for existence. The existence of the Association is but an expression of the same tendency and the same demand. The history of its work is but a mirror of the thoughts, feelings, impulses, and desires that were aroused by the everyday experiences of its members. Its code of ethics, its resolutions, its transactions and its value as a post-graduate institution had all the same common origin. Its power as a causative agent must be sought for in such results as could only have been brought about by organized effort, of the type it alone is capable of producing. What has it done in directing State and national legislation, in fostering original investigation, in suggesting by association new thoughts, in adding to the stock of knowledge of its members and inspiring them with higher motives than they normally would have possessed without it? A correct answer to this would be difficult and perhaps impossible to give, and yet such an answer is required if we would seek to give truly the past, present and future of the American Medical Association.

Every medical man in America should ponder on and lay to heart Dr. Senn's words about medical societies as post-graduate institutions. Nothing can take their place as a means of educating men who are in the active practice of their profession. This is particularly true if they can be induced to work out some scientific problem that has suggested itself at the bedside of a patient. To make discoveries and to teach others are the best means of properly teaching ourselves. To merely report some case in the stereotype manner too often pursued, is of little value to any one. To endeavor to ascertain all that others know about a subject, and then to extend that knowledge, is to be a true student and to make the societies to which we belong true post-graduate institutes. We do not think that Dr. Senn's impeachment of post-graduate colleges can be sustained by facts. We do not believe that they "have as often retarded as advanced the true interests of the science and art of medicine and surgery." We are of the opinion that they are doing great good and advancing medical education. They may, as he asserts, "have fostered and favored specialism," but that is not to their discredit. Progress never came in this world without differentiation, and the production of specialties is but the differentiating of medicine. If they had never done any other good thing than this, it would have justified their existence instead of being against them. What the doctor points out as one of the glaring faults of the medical societies is unhappily too true. There can be no doubt of the fact that there are too many papers presented. He says: "A bulky volume of transactions is no indication of the work accomplished. The papers should be few, concise, and thorough, the discussions free and general." Too many papers are sure to weary the listeners, and then they feel bored and want to get away. When these papers are inferior in quality disgust is produced, and the whole effect of the meeting dimmed if not effaced.

But who is to blame for this excess of papers and shallowness of contents? Surely not the young graduates of two or three years' experience. They might make good scapegoats on which to shoulder the sins of older men, but we are decidedly of the opinion that they are no worse than their seniors. Some of the very best papers that have ever been written were the products of young graduates. Some of the very poorest have come from men well advanced in life. The genius usually displays his greatest power in early manhood, and to thwart or discourage such at the beginning of his career would be likely to turn his efforts into some other channel, much to the injury of the profession.

As an evidence that the unfit may sometimes be the best, we are told in the address of several excellent features of the Association in its earlier days that were allowed to perish. One of these was the appointing of committees to report at each meeting on the progress of the various departments of medical science during the year. Another was the giving of prizes for meritorious essays read at the meetings. Both of these features should have been restored. The offering of prizes, at the sugestion of Dr. Senn, has been. It is to be hoped that as important papers will be called out now as were those of Dalton and Flint in 1851 and 1852. If such annual prizes can be made to induce young physicians to undertake original research in pathology, physiology, and bacteriology, they will be a great blessing to the association, the public and the profession. Should such a consummation result, Dr. Senn's address will have accomplished far more good than it is generally possible for presidential addresses to accomplish.

The code of ethics came in for its share of the doctor's praise. His statement of its merit was anything but faint or underdrawn. Nothing in his opinion is so basic as this, it is "the backbone and corner-stone of the American Medical Association." While it is a very useful instrument in settling disputes among the members concerning the right and wrong of certain acts after they are done, it never can take the place of that law that every man should carry in his heart. The code is a wise and wholesome protest against selfishness, but selfish men are not likely to give it a thought when its provisions come in their way. To attempt to enforce it rigidly would result more disastrously to its friends than its enemies. A formulated code is good, but a code written deep in the consciousness of every member would be far better. Those having the latter do not need the former. Every such man is a law unto himself. He needs no code, and he conducts himself in exact conformity with the code without ever giving it a thought. We believe that there are enough such men in the Association to manage and keep it alive and prosperous, even if there was no written code. We cannot, therefore, agree with Dr. Senn when he says, "Remove it and the American Medical Association will be no more." Laws and codes are made for the lawless and not for men who are a law unto themselves. To say that the Association could not survive the removal of the code seems to be equivalent to assuming that the great majority of the members would be wicked and selfish but for its restraining power. This we cannot believe. The code is a good thing, but we do not think it is any better than the majority of the members.

AMONG THE EDITORS

KISSING THE BOOK

We have been informed of a recent case in a New South Wales Court where Drs. Chisholm and Coutie declined to be sworn as witnesses in the usual manner, and claimed to be sworn by affirmation. The presiding magistrate complied with their request. In that well-known journal, *The Queen—The Lady's Newspaper*, for January 9, 1897, there is an able editorial entitled "Women as Witnesses." We are told by this journal that in France no book is used; the judge swears the witness to speak the truth, and the witness, lifting up his right hand, says, "I swear it." In Belgium the witness states he will speak the truth. In Austria the witness is sworn before a crucifix, and swears to speak the truth, no book being used; and the Jews who testify place the right hand on an open Bible. In Spain the act is more elaborate and ceremonial, but the use of the Bible is unknown; whilst in Italy the hand is placed on the open Bible, and the witness swears to speak the truth. All these proceedings are much more potent than the English form, in which the witness is not required to speak one word, but merely to go through a dumb show of kissing the volume after the officer, usually one of very inferior status, has gabbled through the formula. "Abroad the witness has to utter the words 'I swear it,' after the oath has been read; whereas in England he does not say a syllable, and yet the oath, which is not really taken, is legally binding. The English formula is discreditable; it is disgusting and dangerous to public health, and it lessens the reverence for sacred ceremonials." Such is the opinion of a leading lay newspaper.—*Australian Medical Gazette.*

ORGANIZED QUACKERY

Organized quackery is again laying schemes to delude the public and cheat the physician. We have before us a circular letter describing a new scheme which is briefly as follows: The aforesaid concern are getting up a directory containing the name of a "good" physician in each town of consequence in the country. This guide is to be furnished commercial travelers, theatrical troupes, life insurance companies, etc., at once. The traveling public will be greatly benefited by this, forsooth, the "good" physician agrees to attend them at the rate of 50 cents an office call and $1 a visit at hotels. The sole qualification to being classed among these professional scabs as "good" is the payment of five dollars by the avaricious doctor. The company expects to obtain physicians by promising to send a large amount of business exclusively to their subscribers.—*Southern Cal. Practitioner.*

COLLECTING AGENCIES

We are not attempting to argue on the ethics of debt, but merely to point out the improbability that organization in the face of existing law and sentiment will enable the creditor to collect money where he was not able to do so before. A few men, finding themselves known to strange grocers, butchers and doctors, and their attempt to obtain credit by moving from one part of a city to another, balked by collection associations, will reform; the remainder will seek open charity or will move to another town. Still, physicians should, as a matter of principle support any organization which will help a little in the right direction. There are really not so very many dishonest persons in the world, probably not more than a quarter of the total population. But as the dead-beat class—viewed of course from the commercial standpoint, not the ethic—includes women and children, a list of a thousand delinquent debtors represents a population of perhaps six or seven thousand who are commercially undesirable. Thus, even in a good-sized city, the class which is stealing from 40 to 50 per cent. of the total earnings of the physician, may be represented by a list of only a few thousand names.

From motives of humanity such list must not be used too rigorously; even rank dishonesty does not warrant the neglect of actual acute suffering, and certainly an innocent child should not be allowed to suffer for the sins of his parents. But, beyond giving first aid in such cases, they should be referred to organized, public medical charity; they should be made to understand that they are a class by themselves; that they are recognized as an unnecessary tax on the honest and provident members of society, and that the latter, while too kindhearted to permit of actual suffering, must insist that the burden of such be carried equally by society at large and not by private charity.

The profession is just at the beginning of an organized endeavor to free itself from the burden of the dishonest debtor. It must not expect too much in the way of direct results; no effort of science can extract blood from a red beet nor money from a dead beat. But persistence in these measures is part of the duty of every honest man: it is a duty not mainly to ourselves, but to society at large and to the debtor himself. Mawkish popular sentiment has placed a premium on dishonesty and shiftlessness. Let each do their little toward producing a reaction.—*Medical and Surgical Reporter.*

THE PRINCE OF WALES ON EXPERIMENTAL MEDICINE

The praise given by the Prince of Wales to the Medical School at Guy's in his speech at the opening ceremony, reported in the *British Medical Journal* of May 29, is, of course, equally true of all our schools. It is true of all that when in connection with them experiments on animals are performed they are, to quote the Prince's words: "Undertaken with the object of promoting advances in medicine and surgery which are likely to be of benefit to suffering humanity, and I have satisfied myself that such experiments are conducted under strict supervision by highly qualified investigators, and that in practice the only operations performed upon animals which are not in a condition of complete anesthesia are inoculations and hypodermic injections." Like all that he says on such occasions, it was carefully worded, of authority, exact, and final. Henceforth the agitators must face a fresh statement of old facts, made in public, by a speaker whom even they cannot call ignorant, reckless, prejudiced, or dishonest. But, more is the pity, it will make no difference to them. Other epithets they have in plenty, or they will shelve this difficulty.

Men who have not scrupled to misquote what was said by Harvey and by Sir Charles Bell will find it easy to forget or to falsify the Prince's speech. We fight with some success against all the opposition that is honest; but we fail, generally, when we have to fight the deliberate fraud which underlies some of the false statements made about experiments on animals.—*Brit. Med. Jour.*

IS THERE ANY CHARGE?

Physicians are expected to give too much of their time and service gratuitously. "In the interest of the patient" has been the excuse for exercising charity too long, and it is not lowering the standard of an honored profession to the level of a mercantile pursuit when we assert that our duties are worthy of recompense. Already the hospital abuse has evidenced that the pecuniary value of professional service is in danger, because of shrewd lawyers and complaisant physicians, medical testimony has been utilized to the gain of everybody but the poor doctor, and now the insurance companies and their beneficiaries deny the right of the attending physician to charge a fee for attesting to facts which are requisite to the payment of large sums of money.

If it is right to accept a fee for examining an applicant for life insurance, it is right to charge a fee for testifying to the cause of death in a claim for insurance.

Because the death occurred in a hospital it is by no means certain that the case is one of charity. Patients do get into hospitals and receive gratuitous medical attention, who are abundantly able to pay for the service.—*Atlantic Medical Weekly.*

AN ANTIVIVISECTION HOSPITAL

We cannot forbear from noticing an excellent editorial paragraph in the *British Medical Journal* for May 29, with the above title. They say that a committee has been formed for the foundation of an antivivisection hospital, from which "all vivisectors will be forever excluded." In commenting upon the silliness and absurdity of the suggestion, the writer discusses what will, and whom it will be necessary to exclude, in order to be logical in the determination to derive no benefit from the labors of experimental physiologists and pathologists who are stigmatized as vivisectors. Then follows a list. They must exclude the Listerian treatment of wounds, and not profit by the researches of Pasteur. They must not use the stethoscope and must exclude all the teachings of experimental physiology and pathology which the experiments on the respiration of living animals by Boyle, and the sounds of the valves of the heart by Hope, have brought to our aid in the treatment of diseases of the heart and lungs. If they intend to be really logical, they must never feel a pulse, as it was by experiments on living animals that Harvey arrived at the truth about the circulation. The names of Jenner and Hunter are honored by all true-hearted men, as they are hated by all false-hearted, false-tongued leaders of the antivivisection movement. On account of the recent work in the direction of cerebral pathology, the staff of the new hospital must not localize any brain disease or remove any cerebral tumors. And how many drugs will be barred? Their name is legion: nitrite of amyl, cocaine, eucaine, and many more beside. Truly the patron saint of such a hospital should be the patron saint of the antivivisectors—the father of lies himself!—*Medical Times and Hosp. Gazette.*

THE DUTY OF REPORTING CASES

Medical and surgical practice of to-day is characterized by a precision of diagnosis and treatment, which, while leaving much yet to be desired, far exceeds the most sanguine hopes of our predecessors. In admiring the noble structure reared by hands of the present generation, let us not forget that the foundation stones of the edifice were laid for us, one by one, by the unremitting labors of those who have gone before. With facilities of the most limited scope, according to our present standards, the results attained by them were truly wonderful, and from the vantage ground of these results their followers have been able to push on with an energy characteristic of the day. But it is not sufficient that we rest content with simply systematizing the work of others, thus handing down to posterity the mere interest, as it were, upon the heritage left us. We must add to the principal by placing upon record the results of our own experience and observation.

Failure to keep systematic record of cases is a matter which can and should be corrected, being a duty which every physician owes not to himself alone but to his brothers in the profession. Those who fail in this respect because of innate unwillingness to put forth the requisite exertion, can hardly be reclaimed from the error of their ways, but those who argue press of practice as an excuse for their remissness should take a broader view of the question. If these men follow their calling merely for the pecuniary results it brings, they will not, of course, do aught which would interfere with the attainment of their one end in life. If, however, and we take it that this applies to most members of the profession, the busy physician allows himself no time for work of this character because he believes that the time so occupied might better be devoted to the alleviation of human suffering, we would, while admiring his motive power, suggest that he would be doing a nobler and more far-reaching service to the human race by giving forth the results of his vast experience as a guide for others in the field. Thus his sphere of usefulness would be extended, and his work, taken up and further elaborated by others, would bear its richest fruitage long after he himself had passed into the endless sleep.—*Medical Register.*

AN OSTEOPATHY CONSPIRACY

It is now absolutely certain that the "osteopaths," whoever they are, have an organized conspiracy to have their diplomas recognized, and themselves placed above the regular profession in the eye of the law, in every State in the Union, as the Osteopathy Bills identical in words have been introduced in various legislatures. In most of the States an attempt has been made to sneak the bills through the legislature without comment, and, as might be expected, with the least possible publicity.

Who is paying for all this energetic action on the part of the legislative Solons in the different States, has not yet been made apparent, but a certain advertising quack in Chicago admitted within the hearing of the writer of this article, that he himself had "put up," and was therefore sure of the passage of this bill. He said it would be the means of breaking down the present laws enacted against quackery and advertising generally.—*Jour. Amer. Med. Assoc.*

SURGICAL SHOCK

In days gone by, when malaria, liver-complaint and worms covered a multitude of the physician's sins, shock did the same for the surgeon. The last decade, however, has done much to clear up this *terra incognita* in the province of both the physician and the surgeon, so with this advance, shock is being viewed in a far more intelligible light, and the raids of the bug-bear, though not entirely done away with, have been greatly lessened. The advance has been to some degree along the conservative lines of prophylaxis, which always forms a firm foundation.

When it was learned that surgical shock was due to anemia of the brain a great step had been taken in the right direction, but only when the etiology of cerebral anemia became fully understood could, a rational treatment be carried out. As soon as it was discovered that a lessened amount of blood to the brain more frequently resulted from collateral hyperemia, than from a direct loss of the fluid itself, and that an animal might, so to speak, bleed to death in its own blood-vessels, it became evident that the gravity of an operation would be proportionate to the violence done the nervous system, as well as to the amount of blood lost. These facts being ascertained, it became evident that there were two indications for treating surgical shock; namely, to cause contraction of the arterioles and so diminish the space to be filled by a given amount of blood; or, to cause increase in volume of the blood to fill the given space. The first indication is uncertain in its accomplishment, which is dependent upon the profundity of the shock and the idiosyncrasies of the patient. To fill the second indication is by far the more rational and certain method of treatment, and to this end modern treatment of shock tends.—*New York Polyclinic.*

SELECTED PAPER

ADDRESS IN SURGERY

Delivered at the Semi-Centennial Meeting of the American Medical Association at Philadelphia, Pa., June 3, 1897.

By W. W. KEEN, M. D., LL. D.

Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, Pa.

MR. PRESIDENT and Gentlemen of the American Medical Association—It is always proper to acknowledge an honor, but when it comes unsolicited from so large and distinguished a body of men, representative of the entire profession in the United States, and on an exceptional occasion, I feel it a double honor to have been chosen to deliver the semi-centennial address in surgery. I beg to return you my very hearty thanks for your extreme kindness.

As we celebrate on this occasion the semi-centennial of the organization of the American Medical Association, in this city, in 1847, it is very natural and proper, that the Address in Surgery should be a review of the work done in the last fifty years, and by contrasting the state of surgery and of surgical teaching in 1847 with that which exists in 1897, to see what progress has been made. To recount what has been achieved in these "fifty years of science" far better than a "cycle of Cathay" is not only a pleasure, but it is an immense incentive, since by the progress made in the last fifty years we can in some measure anticipate the enormous, and probably even still greater progress, that will be made in the next half century.

The time, also, is opportune. Last year was celebrated the centennial of vaccination and the semi-centennial of the first public administration of ether. Sydney Smith's bitter query in 1820, "In the four quarters of the globe, who reads an American book, ... what does the world yet owe to American physicians or surgeons?" was answered a quarter of a century later and made all these "four quarters of the globe," our grateful and everlasting debtors for the gift of anesthesia. The discovery of an American dentist; first used by an American surgeon; christened by an American physician and litterateur; the recent celebration awakened throughout the world the interest not only of the profession, but also of the entire public; and the strains of our still living poet, novelist, physiologist and, as we all best love to remember him, neurologist, Dr. S. Weir Mitchell—*nihil tetigit quod non ornavit*—as he sung of the "Birth and Death of Pain," have scarce died away before we begin anew our round of celebrations in the anniversary of this now almost venerable Association.

A most important factor in the improvement not only in surgery but also in all departments of medicine, has been the immense advance made in medical teaching. The educational plane of the profession has been steadily elevated. If the teachers of fifty years ago were to revisit the scenes of their early labors they would scarcely recognize the medical colleges, in which, in their day and generation, and with the meagre appliances then at their command, they did what we must still recognize as yeoman's work in education. Apparently, at that time, the entire instruction consisted in lectures, no text-books even being advised. In reply to a letter addressed to the deans of the Jefferson Medical College and of the Medical Departments of the University of Pennsylvania, Harvard University and Columbia University, I am told that no lists of text-books whatever appear on the catalogues of fifty years ago. In the "catalogue" of the Jefferson, for 1857—a mere catalogue of names of the faculty and students, instead of the present elaborate "Announcement"—for the first time appears a list of "Books of Reference," and the Dean of Harvard states that there, "the first mention whatever made of text-books appears in the announcement of the summer session, beginning March 12, 1866," four years after I graduated! At first the text-books generally recommended on surgery were Drewitt and Erichsen; Malgaigne and *Pancoast*, on "Operative Surgery," and, for collateral reading, Bordeu and Holmes.

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[1] The names of American surgeons are printed in italics, to point out more distinctly some of those Americans who have aided in the development of surgery. The limits of the address only allowed me to name a few, and I must apologize for all the necessary omissions.

The course of didactic lectures then began on the second Monday of October and ended soon after the middle of February, and if we take out the holidays, and remember that not a few made up for coming late by leaving early, it was quite a possibility for a man to receive his authorization to practice, a diploma which alleged him to be "*Virum probum in arte medica, aeque ac chirurgica . . . . dignum amplissimis honoribus academicis,*" after practically only two sessions of three months each! The examination was a farce and the diploma a falsehood. Even so late as 1860, when I began the study of medicine, there were no laboratories, except that of anatomy—the dissecting room. I doubt whether of the two hundred and odd men who graduated with me in 1862, 10 per cent. had ever looked through a microscope or handled a test-tube, palpated a tumor or auscultated a chest. There were no recitations; neither were there ward classes nor other means for actual contact of the student with disease. We can but wonder that any of us who graduated in the first twenty years of the half-century we are celebrating ever learned enough to prevent some from being rivals to Saul, who had slain his thousands, and the more nimble from rivalling David, who slew his ten thousands. That we have become respectable practitioners, or possibly more than respectable, is due not so much to our early opportunities as to later incessant midnight labors.

We may congratulate ourselves that the majority of the medical schools of the country have a graded course of four years, each covering not less than six, and often eight months; not only lectures, but in many instances constant and searching recitations; almost a score of laboratories in which each student actually does the work of observation and experiment; ward classes in which every man is obliged to train his eyes, his ears, his fingers and his judgment, in the examination of patients in every department of medicine; to ferret out the history of the cases brought before him, ascertain symptoms, seek for physical signs, reach a diagnosis, determine the treatment, and often actually to prescribe and to assist at operations.

Not only, however, is the advance marked in our medical schools, whose diploma now really means almost what it says, but also all over the land since 1847 there have been established, partly from philanthropic motives and partly for the purpose of medical teaching, an enormous number of hospitals, in which a very large proportion of the young men, after receiving their diplomas, spend a year or more in the actual practice of their profession, under the eye of accomplished teachers. It is impossible to describe the immense benefit thus obtained by large numbers of nascent practitioners, from such familiarity with all the phases of disease which they will meet in their after lives. Not a few of them also, by being brought in contact with energetic, enthusiastic, and wise teachers, receive their first stimulus, both literary and scientific, a stimulus which will influence their entire future course, and is of far more value than any amount of mere scientific knowledge they may acquire.

What untold good these hospitals do, not only to the patients who are cured and the internes who are taught, but equally to the older medical staff who are still further trained and educated by them! Not only in great metropolitan centers, but in small towns, and sometimes even in rural communities, this growth of hospitals has been within the last twenty years one of the striking features of our civilization. It is not too much to say, that every city or town establishing a hospital, is repaid a hundredfold in the immediate improvement of its medical men, from these opportunities for experience and exact study. No one can visit a modern hospital without being struck by the immense improvements of the last few years. The noisome hotbeds of contagion, of fever, of suppuration, of erysipelas, of blood-poisoning and of "hospital" gangrene—could irony wield a sharper weapon than such a name?—have given way to neat and trim wards, the home of cleanliness itself with iron bedsteads, glass-topped tables, cement or marble, tiled or tessellated floors and walls, with trained nurses whose jaunty caps and pretty uniforms and often winsome faces almost make one half wish to be sick, and when one is sick half loth to be well.

I mentioned a moment ago the text-books in use forty years ago. Except *Pancoast's* "Operative Surgery," every one of them it will be observed was the work of a European. *Gross's* "System of Surgery," which has probably had a wider influence in educating the profession than any other general surgical text-book issued up to the present time—a monument of surgical knowledge and indefatigable labor—was first published in 1859. This was far in advance of most of the surgical text-books then in use. The literary labors of American surgeons consisted chiefly in translating foreign surgeries, or in annotating American editions of English text-books.

Within the last two decades, and especially the last, we all know, without my undertaking the invidious task of naming them, how many distinctly American surgeries have been written, and we may say without undue national vanity that they are the equals of any similar European works. This literary and scientific activity, however, has not been limited to text-books or systems of surgery alone, but our forward strides in education have been marked by the appearance of not a few monographs of original research which do credit not only to their authors but to all American surgeons.

On more than one occasion I have had to call attention to the difference between American surgery and that of Europe. While in the department of the practice of surgery, after a full acquaintance and observation with European men and methods, I can state my deliberate conclusion that the best American surgeons are the peers of the best European surgeons; yet in the department of original research and especially of laboratory work, we must confess our very evident shortcomings. I do not say that we should be ashamed of them, for we must remember that we are but little more than a century old as a nation; that the practical needs of everyday life must first be met; that opportunities must be created by the construction and endowment of laboratories, and especially by the growth of that literary and scientific spirit which only develops in any community or profession in the course of long years and with accumulated wealth, and which has had little opportunity for growth in this country until within the last twenty years. The genius of our institutions is such that we can never look for government or State endowments of such laboratories, but must depend on the far-sighted and broad-minded liberality of our wealthy fellow citizens for the establishment of such laboratories and the consequent opportunities for investigation and discovery. Nor do I believe in the long run we shall suffer by reason of this difference. As a people we are not apt to be left behind in the race, and the stimulus of a somewhat exceptional distinction in science or literature will meet with a responsive chord in the breast of many a young man now beginning his studies.

To attempt to impress upon the members of the American Medical Association the need for such original research in this country is a work of supererogation, but I may with propriety urge you with all the ardent and intense conviction I feel, that as we leave this festal meeting and go to our homes, every one of us as occasion offers will urge upon our wealthy liberal-minded fellow citizens the duty and also the privilege of founding in connection with every medical school laboratories of research, the good influence and beneficent results of which can never be estimated in paltry dollars and cents. Yet tried even by this commercial standard science pays. The early recognition of the germs of cholera at the port of New York some years ago by preventing the entrance of such a commerce-destroying epidemic, leaving wholly out of consideration the saving of human life, saved to the citizens of the metropolis more millions of dollars than are represented many times over by the cost of all the laboratories now existing in this country. Our merchants should be made to understand, therefore, that even from a financial point of view, to say nothing of the humanitarian standpoint, the cheapest means of preventing the enormous business losses which occur from epidemics is by such scientific and hygienic measures as the laboratory makes possible.

Allied to medical teaching and the most

important adjunct to medical literature is the establishment of extensive medical libraries. In this, as an American, I am proud of my own country. No foreign nation can point with equal pride to any such medical libraries as the last thirty years have developed in this country. Foremost, not only among American libraries, but in the world, is that of the Surgeon-General's office of the United States Army in Washington. Not only has it gathered thousands of medical books and eleven hundred medical journals (the estimate of Dr. Fletcher) from all over the world, but the entire library is managed with a liberality which makes it the admiration and the envy of foreigners. Its treasures are freely at the service of the entire profession of the country, and the publication (under the editorship of *Dr. John S. Billings*) of its magnificent "Index Catalogue," has made the whole world debtors to America. We trust that a more liberal Congress may see that even the small amounts thus far given to it have made it of such immense value, still larger and more generous appropriations would keep it ever in the van.

In addition to this, the libraries of the College of Physicians of Philadelphia, of the New York Academy of Medicine, and of the Boston Medical Library Association are only surpassed by those of the faculties of medicine in Paris, of the Royal College of Surgeons of London, and of the Military Medical Institute of St. Petersburg; while those of the Newberry Library in Chicago (thanks to our honored and liberal president), of the New York Hospital, and of the Pennsylvania Hospital rank well with the best European libraries. With such literary opportunities, therefore, if we had equally good scientific laboratories the possibilities of American medicine and surgery would be almost unbounded.

The scientific progress of this half-century of surgery has separated us from the past as by a great gulf. Great theologians, such as a Calvin or a Jonathan Edwards, were they recalled to life, could discourse as learnedly as ever of Predestination and Free Will; great preachers, as a Beecher or a Spurgeon, could stir our souls and warm our hearts as of old; great jurists, as a Justinian or a Marshall, could expound the same principles of law which hold good for all time; great forensic orators, as a Burke or a Webster, could convince us by the same arguments and arouse us by the same invectives or the same eloquence that made our fathers willing captives to their silver tongues. But to-day, so rapid has been our surgical progress, a Velpeau, a Sir William Ferguson, or a *Pancoast*, all of whom have died within the last thirty years, could *not* teach modern surgical principles nor perform a modern surgical operation. Even our every-day surgical vocabulary—staphylococcus, streptococcus, infection, immunity, antisepsis and asepis, toxin and antitoxin—would be unintelligible jargon to him; and our modern operations on the brain, the chest, the abdomen and the pelvis would make him wonder whether we had not lost our senses, until seeing the almost uniform and almost painless recoveries, he would thank God for the magnificent progress of the last half-century, which had vouchsafed such magical, nay such almost divine power to the modern surgeon.

The splendid Index Catalogue of the library of the Surgeon-General's office teaches another lesson. In law, the jurist or attorney deals with statutes and precedents, and to some extent with principles which are for the most part local. An American lawyer could not plead a case in Germany, nor a German lawyer in Russia, nor a Russian lawyer in Italy. Laws and customs differ from country to country. An American or an English divine would be an alien in language and religion in Hindostan; a Hindoo, equally an alien in China; a Chinaman, in Africa. But surgery is one and the same the world over. Whether in the frozen North or under the equator, in civilized America or barbaric Africa, be the patient white Caucasian, swarthy negro, red Indian or yellow Malay, the same accidents and diseases assail him, the same remedies save him, identical operations cure him; a new remedy discovered in Japan is equally efficacious in Philadelphia; a new operation devised in America is equally applicable in Egypt. The Index Catalogue, which is a catalogue not for one country, but for all nations and all tongues, contains them all. This, with our noble stand as a profession against patenting any instrument, any operation or any method of treatment, makes every sick or injured man my brother, and makes me his keeper, under every sky, and clothed in any skin. Heaven bless such a divine profession, such a noble array of generous men battling for the life and health of all mankind, the world over, in one serried phalanx of unselfish heroes!

The development of modern surgery, apart from surgical teaching, libraries and laboratories, is dependent upon several noteworthy factors. These have to do partly with the discovery and development of surgical principles, and partly with the development of surgical practice. Now the one and now the other is in advance. Each is the handmaid of the other. In Listerism we see surgical practice outstripping surgical principles, for of Lister it might truly be said, that by the "scientific use of the imagination" he saw the germs, "when as yet there were none of them." His surgical insight convinced him of the existence of the germs of suppuration years before Ogston's and Rosenbaum's discovery of the pyogenic organisms. On the other hand, the moment that the scientist discovered these germs, the laboratory enabled him to discover many others, and the discovery of the bacillus of tetanus, of the tubercle bacillus, of the streptococcus of erysipelas, of the gonococcus, of the bacillus of malignant edema, the Bacillus mallei, etc., illustrate the converse—science forging ahead of practice, and pointing the way to new achievements in the healing art.

Foremost among the important studies which the past fifty years have seen established on a firm foundation, is that of Pathology and Pathological Anatomy. It is not a little credit to America that the first pathology written in the English language was written by a young American doctor, in a then small Western town, as early as 1839. In spite of Gross's book, however, pathology and pathological anatomy were almost unknown sciences in 1847. The Pathological Society of Dublin was founded in 1839, that of New York in 1844, that of London in 1846 and that of Philadelphia in 1857. The microscope, and especially microscopical methods of staining, section-cutting and the like were in their infancy, or may indeed be said scarcely to have existed. No accurate views of pathology could be entertained without these aids. What is now the heritage of every first-year student was beyond the possibilities of the most advanced teacher of fifty years ago.

Second—Allied sciences have been put under tribute to surgery. In physics the discovery of the Roentgen rays is so recent as to require only mention. This discovery, as well as the enormous advances of electricity, as seen in the electric head-light, the cystoscope, the gastrodiaphanoscope, and other means of diagnosis, engenders the hope that other forces and other means of investigation quite as surprising and quite as marvelous, are certainly to be expected within the next fifty years.

It is due, however, especially to the development of Embryology and Comparative Anatomy, in combination with pathology, that our views of the nature of disease have become so much more accurate. Perhaps the book which influenced surgical views and surgical practice more than any other, was Chelius's "Surgery," of which a translation by South was republished in Philadelphia in 1847. It had passed through six editions, and had appeared in eight languages. It may be taken, therefore, as the type of the most advanced continental surgery of that day. How curiously vague his ideas of pathology were, may be seen in his classifying together false joints, old rupture of the female perineum, harelip and cleft palate, as "old" in contradistinction to "recent," "solutions of continuity which do not suppurate." Though he speaks of the last two as "original vices," yet so far as concerned embryology, which has shown the cause for hare-lip and cleft palate he is absolutely silent. Stenosis of the esophagus, of the rectum, of the prepuce, urethra and vagina, were all classed together under "diseases of unnatural adhesions of parts." The existence of neoplasms as a cause of the stenosis, was not clearly differentiated from other causes. All his ideas as to tumors were vague, and, as we now know, wholly unscientific. There is no chapter on tumors in the modern sense, though there is one on "diseases which consist in the degeneration of organic parts, or in the production of new structures;" but even in this, enlarged clitoris, goitre, warts, bunions, fungus of the dura mater, fatty swellings, encysted swellings and loose bodies in the joints are grouped with polyps, sarcoma, cancer, and other new growths. Ranula, retention of urine, and retention of the fetus are classed together as "Foreign Bodies formed in our organism by the retention of natural products," and hernia cerebri is treated in connection with all other forms of hernia. Greater disregard of their pathology or etiology, of their origin and significance, can hardly be imagined.

Though John Hunter had dissected over five hundred varieties of animals a half-century before the American Medical Association was organized, yet the solidarity of the animal kingdom from man down to the lowest form of life was not recognized. Evolution and, therefore, reversion of animal types, was not recognized, and hence not used to explain many abnormal developments. For instance, abnormalities in the arch of the aorta and its branches, which we now recognize as variations of a general plan running through the entire animal kingdom, were then mere curiosities of structure without any meaning.

Third.—The year before the American Medical Association was organized the world was startled and surgery revolutionized by the introduction of Anesthesia; first of ether, in America, in the year 1846; and of chloroform, in Edinburgh, in the following year. What this has done for the amelioration of the horrors of pre-anesthetic surgery, very few now living can appreciate. Instead of shrieks, and cries, and groans, and a needful celerity which sometimes became dangerous haste, everything now proceeds with that quiet and leisure which is essential to the performance of many, if not most, of our modern, elaborate and prolonged surgical operations. Now "the fierce extremity of suffering has been steeped in the waters of oblivion, and the deepest furrow in the knotted brow of agony has been smoothed away forever." (Holmes.) Who could possibly endure the tortures of an operation lasting for one, two, or it may be even three hours, when every minute seemed an eternity of agony? I would rather be the discoverer of anesthesia than have won an Austerlitz or a Waterloo.

The old motto, "*tuto, cito et jucunde*," is now changed by the omission of "*cito*." In fact, as has been pointed out by Cheever and a few others, the leisurely performance of operations which is made possible by ether is in danger of leading us to a dilatory method of operating which has its own dangers. Some of our most successful modern surgeons owe not a little of their lessened mortality, I am sure, to their swiftness.

The ideal anesthetic has not yet been obtained. No one who reads the journals from week to week, and sees the sad headings "Death from Anesthetics," and especially "Death from Chloroform," can fail to see that both ether and chloroform, and also a few others which occasionally replace them, have very real dangers. The ideal anesthetic will not be one which will abolish pain without abolishing consciousness. To have the patient aware of surgical emergencies which test even a veteran operator's skill and resources to the utmost, would frequently invite death by the terror which it might occasion. The ideal anesthetic will abolish pain by the abolition of consciousness, *but without danger to life*. That it will be found, is as certain, as that experiment and progress are our watchwords.

Besides general anesthesia, several forms of local anesthesia have been devised, within the last few years, by freezing with salt and ice, rhigolin or chlorid of ethyl, by cocaine, eucaine, Schleich's infiltration method, etc., methods which have a distinct sphere of usefulness, especially in minor operations.

Fourth. Antiseptic Surgery.—While the exact date of the revolution in surgery due to anesthesia can be fixed, a later revolution in our surgical methods came in so gradually that one cannot name any special day, or even year, when it was introduced. But, while the day or year can not be given, the one man to whom this great revolution in modern surgery is due is well known. The name of Lister, *primus inter pares*, is honored throughout the entire surgical world, and his recent distinction, as the first medical peer of the United Kingdom, is an honor conferred not upon Lord Lister alone, but upon the entire profession, and worthily marks a new departure in the recognition of medical science by the queen.

So far as this country is concerned, the introduction of antiseptic surgery may be said to date from the visit of Mr. Lister to this same city of Brotherly Love, at the Centennial International Congress of 1876. Derided at first as a "fad" or as "nothing more than surgical cleanliness," it has now won its way over the whole world. A few laggards in the surgical army there are who even yet do not practice modern antiseptic or aseptic surgery, but the overwhelming majority of the profession recognize that the world owes a debt to Lord Lister, which no honors can pay. His service to humanity will never be forgotten, and probably never will be surpassed, in its wide-reaching beneficent influence. Anesthesia abolished pain; antisepsis has almost abolished suppuration, erysipelas, tetanus and the various forms of blood-poisoning; in other words, nine-tenths of the dangers of surgical operations. Malgaigne, from 1836 to 1840, lost 126 amputations of the thigh out of 201, a mortality of nearly 63 per cent. (Mütter's Liston, p. 425). *Erdman* (*Annals of Surgery*, XXII, 1895, p. 358) has shown, that in nine New York hospitals, from 1882 to 1894, the mortality in 223 amputations of the thigh was 21.5 per cent. Heimann (*Arch. klin. Chir.*, 1897, liv, 223) reports in Germany, in 1894, 475 cases with a mortality of 21.7 per cent. Page (*Lancet*, 1894, i, 1439) of Newcastle-upon-Tyne has shown that, from 1876 to 1893, of 230 amputations of the thigh, the mortality was only 11.3 per cent., and *Estes* (*N. Y. Med. Rec.*, Nov. 3, 1894) of 77 such amputations, lost only 8, a mortality of but 10.4 per cent.

Without anesthesia and antisepsis, modern surgery would be an impossibility. It is to me an encouraging and inspiring thought that the world owes the three greatest discoveries of modern medicine—Vaccination, Anesthesia and Antisepsis—to England and America. Long may they be joined in such scientific brotherhood! Never may they be sundered by fratricidal strife!

Fifth.—As an outgrowth from the practical development of antiseptic surgery have arisen a wholly new science, and a wholly new method of practice, which bid fair to revolutionize our modern therapeutics—Bacteriology and Orrhotherapy. Like the antiseptic method, they have been a gradual outgrowth. Modern laboratory research has verified the crude suspicions and shrewd guesses of thirty years ago, and transformed them into the certainties of modern science. The discovery of the anthrax bacillus by Pollender, in 1855; the epoch-making discovery of the pyogenic organisms, in 1881, by Ogston and Rosenbaum; of the tubercle bacillus by Koch, in 1882; of the tetanus bacillus by Nicolaier, in 1887, will illustrate how recent is the scientific knowledge. The splendid results which have been achieved in medicine, by the use of Behring's and Roux's diphtheritic antitoxin, seem to promise that some form of antistreptococcic serum will do as much for surgery, and that your orator fifty years from now will be able to trace the history of the probably soon-to-be-realized method of battling with infection, of which at present we have only a premonition. Bacteriology and orrhotherapy are so recent that it is dangerous to prophesy what may occur, but it is not venturing far to predict that fifty years from now we shall be able not only to easily convert infected into non-infected wounds, but also, by some means as yet undiscovered, we shall be able successfully to combat the infection, and prevent the dire ravages of tuberculosis, of syphilis, of cancer, of sarcoma, and possibly even the occurrence of benign tumors. That will be indeed the surgical "Golden Age," when surgery will be robbed of nearly all its terrors, when a peaceful victory will abolish our present instruments and the majority of our present operations.

Sixth.—Animal experimentation has had also a very large share in the development of modern surgery. The whole question of the introduction of animal ligatures was begun in America by *Physick*, who used buckskin; his follower, *Dorsey*, who used kid, and cut both ends short; *Hartshorne*, who used parchment, and *Bellenger* and *Eve*, the tendon of the deer; and this has been solved principally by experiments upon animals, in order to determine accurately the behavior of such ligatures in the tissues. Only professional readers can appreciate what a boon to humanity this single achievement has been. Modern cerebral surgery also owes its exactness and success almost wholly to cerebral localization and antisepsis, both of which were first studied by experiment upon animals, and later by the application of the knowledge so gained to man. Bacteriology would not now exist as a science, nor would accurate modern surgery and a large part of modern medicine be possible, had experiments upon animals been prohibited, as some zoöphilous men and women who love dogs better than men and women, and even little children, desire.

Seventh.—The development of modern surgery has naturally been on two lines: First. That of scientific progress based especially on pathology, bacteriology, embryology and comparative anatomy. Our present views of tumors, of malformations, of the theory of immunity, of septicemia and pyemia, of thrombosis and embolism, have been the result of the studies by physiologists and pathologists, which have most profoundly helped our practice and influenced our results. Secondly. Within the last twenty-five years, especially, there has come what might be called pre-eminently the era of the operative surgeon, due more especially to the introduction of anesthesia and later of antisepsis. By making it possible to perform an operation without pain, and almost without danger, organ after organ of the body has been made accessible to the modern surgeon with almost invariable success. Scarcely twenty years ago even Erichsen, in a public address, declared that surgery had nearly reached its final limits, and that the brain, the heart and the lungs must ever remain inaccessible to the surgeon's knife! But now these organs are so constantly operated on and even removed that I have about reached the conclusion that, with the exception perhaps of the heart, all of our internal organs are strictly to be classed as luxuries—and we even know some heartless people. From this safety and painlessness there has been born an audacity unknown to the men of a former generation. Diseases then thought to be incurable are now vanquished every day in our clinics, and organs thought to be inaccessible are attacked with an impunity which is perfectly marvelous. Indeed, the danger is not slight, that we may go to the other extreme and we may well heed the warning of *Weir Mitchell*, that perhaps, "surgery has lost much of that keen sense of responsibility which grew out of the larger mortality of other days."

Modern instruments of precision, such as the clinical thermometer, the cystoscope, the ophthalmoscope, the laryngoscope, the otoscope, the proctoscope, the aspirator, etc., without which accurate diagnosis and proper treatment are often impossible; instruments accessory to operation, such as retractors, hemostatic forceps, transfusion apparatus, etc., without which the modern surgeon would be hampered and hindered beyond measure, were wholly unknown thirty years ago.

Time will not permit me to trace chronologically the introduction of one operation after another. We can best, perhaps, obtain a notion of the difference between the surgery of 1847 and that of 1897, by noting what operations were performed at the former date and contrasting them with present possibilities. Among the operations performed a half-century ago may be included:

Amputations.

The ligation of the most important arteries.

Occasionally excision of joints.

The removal of tumors.

Lithotomy.

Lithotrity.

Colostomy.

Herniotomy.

Tracheotomy.

Tenotomy (the subcutaneous performance of which, together with the difference in the danger of open and closed fractures, long before the day of Lister, should have pointed out the road to antiseptic surgery); and

Trephining, which, though formerly very frequent, had almost fallen into desuetude. South says in 1847, "the less done as regards fractures of the skull the better. They should never be interfered with except compression be present." The barbarous écraseur and the equally barbarous Jarvis's adjuster, were then in frequent use.

Ovariotomy was more than looked at askance. In 1846 *Mütter*, in commending Liston (Mütter's Liston, p. 442) for protesting against ovariotomy says: "It is certainly hazarding but little to assert that in a very few years the measure will be assigned to the oblivion it so richly merits," and so late as 1862, the year that I graduated, I heard the then professor of obstetrics (Meigs) in the Jefferson College, in his last course of lectures, declare with a warmth which did more credit to his humanity than to his science, "that the men who go about the country ripping open women's bellies should be indicted for murder." The first ovariotomy in England was performed in 1836; the first in France in 1844; but for Europe ovariotomy "was not fully established as a surgical procedure until after 1858, when Wells took it up" (Heath's Hunterian Oration, 1897); and in this country, where it had originated in 1809, at about the same date when the brothers *Atlee* suffered, one may say even persecution, because of their adherence to their belief that ovariotomy was a justifiable operation. Now, a number of surgeons can each count more than one thousand ovariotomies, perhaps some even two thousand, with a mortality in their later results as low as 3 per cent. In his first thousand ovariotomies, on the basis of the annuity tables of life-insurance companies after deducting the years lost by the fatal cases, it was estimated that Sir Spencer Wells alone had added twenty thousand years of happy useful life. With our modern antiseptic methods it would be no exaggeration to say that a thousand similar cases to-day would add thirty or possibly even thirty-five thousand years of human life. What that means to the hundreds of homes, to the hundreds of husbands and thousands of children in those homes who can say?

It is impossible in the time allotted me, to do more than make a very brief survey of the surgery of 1897, as contrasted with that of 1847, but even a hasty glance will give us some idea of how far we have gone on the road of progress.

One of the most striking departments in which progress has been made is in that of the nervous system. In this *Mitchell*, though not a surgeon, has suggested many surgical advances. I have already quoted South's dictum as to fractures of the skull—a dictum which is now violated with the happiest results by almost every surgeon in the land. In addition to this, a very large number of tumors of the brain have been successfully removed, tumors which before 1884 were considered as wholly outside the domain of surgery. To our English brethren, Godlee, Horsley and Macewen, above all others, is due the credit of establishing cerebral surgery on a firm basis of right principles and successful technique.

In abscess of the brain we have a lesion, which is still more amenable to treatment, and the number of recoveries now mounts even into the hundreds. We have recognized that these abscesses very frequently arise from chronic disease of the middle ear, and, thanks to the otologist, we can now, by proper treatment, in many cases do better than operate on these abscesses—we can prevent them. The papers of Arbuthnot Lane, Ballance and Macewen have taught us that even so formidable a disease as thrombosis of the sinuses, especially of the sigmoid sinus, can be dealt with successfully. Even the ventricles of the brain have been successfully invaded, drained, packed with gauze and washed out from side to side.

Tumors of the spine, since Mr. Horlsey's brilliant paper, in 1888, have been proved accessible to the modern surgeon. Though *Abbe's* division of the posterior nerve-roots in cases of intractable neuralgia, has not been followed by all the success we could wish, it has proved that the operation is a practicable one. While, in the words of the hymn, we have not yet "stretched every nerve," we have almost realized that pious exhortation. Section of nerves by accident or deliberately, in the removal of tumors, was formerly followed by permanent paralysis, but now nerve-suture has rescued many a poor sufferer and restored the function of the divided nerve, even after months of separation. Facial neuralgia, once the bane of the surgeon and the sufferer, has now been cured in a number of cases, not only by the removal of the rebellious nerve, but as was suggested by *Mears* in 1884 (Trs. Amer. Surg. Assoc., 1884, p. 482-3), even the Gasserian ganglion itself has been removed in more than a hundred cases. In this department the names of our American brethren, *Carnochan, Pancoast* and *Hartley* stand pre-eminent.

In diseases of the organs of locomotion—the bones and the muscles—the expansion of modern surgical technique has been very marked. The plastic surgery of the bones seems scarcely to have any limit. Osteotomy is so safe that in 1884 Macewen reported 1267 operations, on 704 patients, with only 5 deaths, and they were chiefly due to other causes than the operation. Tenotomy and transplantation of tendons have assumed a new field of usefulness undreamed of a few years ago. In fractures and dislocations the progress has been equally extraordinary. Jarvis's adjuster has given way to the method of manipulation first introduced by *Reid*, and reduced to a science by *Bigelow* and *Allis*, for the hip, and Kocher, for the shoulder, and in a combination of fracture with dislocation, the ingenious hook of *McBurney* has enabled the surgeon, in many cases, to accomplish that which manipulation alone could not have done. The splints of *Nathan R. Smith* and *Hodgen*, and the introduction of adhesive plaster by *Gross*, and the subsequent application by this means of the weight and pulley by *Buck*, have supplanted the clumsy splint of Desault. Even so simple a means of treatment as that by plaster of Paris, together with the thorough disinfection of compound fractures, has enabled us to obtain results, either by the recumbent or the ambulatory treatment, which, but a few years ago, were impossible. Compound fractures, then among the most serious accidents of the human frame, with a mortality of about two out of every three, have so lost all their dangers that the mortality is hardly more than two out of every hundred.

Tumors, once too formidable either by reason of their size, their location, their adhesions, or the hemorrhage which attended their removal, have been made wholly amenable to treatment. We have been taught largely by the labors of the younger *Gross* and *Halsted* that even cancer no longer necessarily entails death by recurrence, but that if we remove the growth early and thoroughly, we can obtain a cure, which in the hands of Mr. Cheyne (*Lancet*, 1896, 1, p. 397) has recently reached the extraordinary result of 57 per cent. of *permanent cure* in cancer of the breast.

Not only has the exterior of the chest been invaded, but the ribs and the sternum are now resected, and when necessary the entire chest wall, over a large area, is removed with impunity.

Few of us, excepting the older living members of the profession, can remember the immense advance which paracentesis of the chest made, by reason of the persistent and fruitful researches of *Bowditch* and *Wyman*, about 1850, out of which have grown Estlander's and Schede's heroic and successful operations. Not only have accumulations within the pleura been evacuated, but *Roberts* was among the pioneers in the operation of paracentesis pericardii, while the surgery of the lung is now only taking its first tentative steps. The pericardium has also been sutured, and even the heart itself has twice been sutured, with one complete recovery (Farina, *Rev. de Chir.*, 1897, 335—Rehn, *Lancet*, 1897, 1, 1306).

We were taught by the younger *Gross* that the great veins could be successfully tied, and recently they have been successfully sutured—even the lateral sinus. The recent researches of *Abbe* (*N. Y. Med. Rec.*, Jan. 13, 1894, 39), and *Murphy* (*N. Y. Med. Rec.*, Jan. 16, 1897, 73), may open a new chapter in the surgery of the arteries by substituting suture with preservation of their lumen for occlusion by the ligature.

Quite as fruitful has been the surgery of the digestive tract. Foreign bodies in the esophagus which were very inefficiently dealt with fifty years ago, thanks to the Roentgen rays and modern surgical methods, are now in the large majority of cases successfully removed. In non-malignant stricture of the esophagus *Abbe's* bowstring method has been a credit to American surgery.

I can do scarcely more than allude to the surgery of the stomach; to the value of gastroenterostomy, to pylorectomy, to pyloroplasty, to dilated stomach in which a tuck has been taken both by European and American surgeons, or hour-glass contraction of the stomach, which *Weir* and *Watson* have successfully remedied by operative procedures, to gastrostomy in stricture of the esophagus or *Richardson's* gastrotomy for the extraction of foreign bodies in the esophagus. In the surgery of the entire intestinal tract, America, it can be safely said, has led the world. To no one laborer in this field is more credit due than to the distinguished President of the American Medical Association (*Senn*), to whose irrepressible labor, genius and skill we owe most of our means and methods of dealing with such diseases. He first showed us the most successful methods of making intestinal anastomosis, from which have arisen all of our modern methods of treatment of cancer of the large and small intestines, and many allied conditions. From these fruitful labors also have arisen our modern methods of the treatment of intestinal and fecal fistulæ, even in some cases reaching so far as the total exclusion of a considerable portion of the bowel. The modern, wonderfully successful treatment of wounds, whether stab wounds, gunshot wounds or others of the stomach, intestine or bladder, owe their success largely to the labors of the elder *Gross*, *Parkes*, *Senn*, *Bull*, *Murphy* and other Americans.

Cancer of the rectum, which, until about ten years ago, was almost inoperable, has now taken its place among the formal and justifiable operations of modern surgery, so that as much as twelve inches of the rectum have been resected by Kraske's method. The mortality has been reduced to 20 per cent., and permanent cure of such a formerly fatal disease has been attained in over one-third of the cases which recovered. (*Therap. Gaz.*, April and May, 1897.)

The other accessory organs in the abdomen have been conquered by the modern surgeon. Fifty-seven tumors of the liver have been removed with a mortality as low as 13.5 per cent. (Transactions Pennsylvania State Med. Soc., 1897.) The world owes to America the operation of cholecystotomy, since it was first done by *Bobbs* in 1867, and was popularized by the powerful influence of *Sims* in 1870. Pancreatic cysts, chiefly through the labors of *Senn*, are now amenable to treatment, while the spleen has been extirpated many times.

The appendix, that meagre but most troublesome ancestral vestige, which with the bicycle has been the faithful friend of the surgeon through the past few years of commercial depression, has been recognized within the last few years as the real origin of the so frequent abscesses in the right iliac fossa. Beginning with *Willard Parker's* paper, in 1867 (*N. Y. Med. Rec.*, 1867, II. 25), and *Fitz's* memorable paper, in 1886 (*Trans. Assoc. Amer. Phys.*), the treatment of appendicitis, and even its much abused name, are distinctly of American origin, and an immense credit to American surgery.

Until Simon's classical experiments on dogs, in 1870 (*Deutsche Klinik*, XXII, p. 137) the kidney was a practically inaccessible organ, but now, when it wanders, we secure it by sutures; when there is a stone in it, we open it fearlessly and remove the stone; when it is distended with pus or urine we drain it, and if it is past hope of recovery we extirpate it, all with most remarkable success. Even stones in a ureter or a divided ureter, *Cabot*, *Fenger*, *Kelly* and *Van*

Hook have shown us, can be successfully dealt with.

The treatment of stone in the bladder has undergone an extraordinary revolution since the introduction of *Bigelow's* litholapaxy. Its introduction as a surgical procedure was dependent on the prior researches of *Otis* and other Americans, who showed us that the calibre of the urethra was much greater than we had supposed, and permitted, therefore, the introduction of instruments of much larger diameter than before had been deemed allowable. The reintroduction of supra-pubic cystotomy, due largely to *Dulles's* paper, in 1875 (*Am. Jour. Med. Sci.*, LXX, 39), has permitted us to deal not only with large stones, but also with ulcers and tumors of the bladder; even large portions of the wall of the bladder have been removed successfully. The enlarged prostate is now, though always a serious danger, far less a menace to comfort and life since the introduction of McGill's and other methods of prostatectomy, and of *White's* operation of orchidectomy or the resection of the vas deferens.

The surgery of the pelvic organs has, one may say, been created since 1847, but its triumphs are so many that time allows only a word. *Sims's* treatment of vesicovaginal fistula and his introduction of silver wire in 1852 were distinctly an American triumph, while the labors of the *Atlees*, *Kimball*, *Peasley*, *Goodell*, *Thomas*, *Emmett*, *Battey*, *Kelly*, household names to all of us, have made pelvic surgery so successful that the danger is that it may be overdone. Many an ovary or womb, in the words of the witty toast, "absent from the body but present in the spirit," would far better have been left in possession of their owner.

The radical cure of hernia has been the product of the last twenty years, and the operations of *Halsted*, Bassini and Macewen, not to mention the many others, have taken a permanent place in the practice of the profession within the last ten years. When we can report, as *Coley* has recently done (*Annals of Surg.*, March, 1897, 270), 360 cases, with only one death and seven recurrences, or as Degarmo has reported at this very meeting, 250 cases unmarred by a single death, the question of the propriety of operating for the radical cure of hernia even in children, is settled once for all.

Goiter fifty years ago was simply allowed to run its course, since hemorrhage destroyed nearly all those operated on; but two years ago Kocher (*Beilage z. Centralbl. f. Chir.*, 1895, 66) reported a series of a thousand operations, with a mortality of but 1 per cent. in non-malignant cases.

Extirpation of the larynx for malignant growths has taken its place among the justifiable and formal operative procedures. Acute intestinal obstruction, whether from bands, volvulus, intussusception or other conditions, is now dealt with as it ought to be, surgically, and, if promptly done, with the happiest results.

A hasty and very imperfect review, such as has been above given of the improvements in surgery within the last fifty years, does much more than show us the adroitness, audacity, and success, of the modern surgeon. That is the thing which strikes us most as surgeons, but we must regard all this progress also from the standpoint of the patient and the community, and see what it means. It means a prolongation of life by operations, which, while not without pain and suffering during recovery, have been robbed of all their primary terrors by anesthesia, and most of their subsequent pain and suffering and danger by antisepsis; it means that patients who in 1847 were hopelessly consigned to the grave after weeks and months of suffering are now, in the vast majority of cases, rescued from death; it means that families formerly bereft of husband and wife, parent or child, and left to spend years of sorrow, of suffering and, in many cases, of poverty, because the breadwinners were taken away, have now restored to them, their loved ones, in health and strength and usefulness; it means that the hecatombs of a Cæsar, an Alexander, a Napoleon, are offset by the beneficent labors of a Morton, a Warren, a Lister, who are, and for all times will be, blessed by many a poor patient, who never heard of them, instead of being cursed as the destroyers of nations and of homes innumerable; it means that man's inhumanity to man shall be replaced by a scientific and Christian altruism, which sheds blessings and benefits on the whole human race, seeing in the patient, whether saint or sinner, only a human being who is suffering from accident or disease, whom it is the province of the surgeon, in imitation of Him who went about doing good, to restore to health and happiness. Even where life can not be prolonged, the agonies of death itself can be soothed by his gentle hand and his fruitful skill.

What the future has in store for us we can only dream. Two diametrically opposing tendencies are prominent in modern surgery; radical interference with disease so that there is now scarcely a single organ or portion of the body, not within our reach; yet on the other hand a remarkably conservative tendency in cultivating remedial rather than radical surgery. Joints so diseased as once to require amputation, are now treated conservatively with the best results; ovaries, a portion of which can be preserved, are kept in the abdomen; kidneys once doomed to extirpation are now partially removed, and bones so destroyed that they formerly required amputation, are now excised and the limb preserved. Experiments upon animals have recently given us wholly new views of infection and of the origin of many diseases, and also the little knowledge that we yet have as to either natural or acquired immunity, and to a consequent orrhotherapy.

It is, I believe, on these lines that our more immediate future triumphs will be achieved. We have discovered the actual cause of tetanus, tuberculosis, erysipelas, suppuration, and a host of other diseases and conditions, of the cause of which we were wholly ignorant a few years ago. The causes of many other disorders, both medical and surgical, still remain hidden from our view. We know almost nothing of the origin of benign tumors, and are groping to discover the origin of cancer, sarcoma and other malignant growths. When we have discovered the cause, we are nearly half way, or at least a long way, on the road to the discovery of the cure, and I think it not unlikely that in 1947, your then orator will be able to point to the time, when a definite knowledge of the causes of these diseases was attained, and probably to a time when their cure was first instituted.

That will be a surgical Paradise, when we can lay aside the knife, and by means of suitable toxins or anti-toxins, drugs, or other methods of treatment, control inflammation, arrest suppuration, stay the ravages of tuberculosis and syphilis, abort or disperse tumors, cure cancer, and it may be, so prolong human life that all of his then audience will die either of accident or of old age. Would that you and I could be alive in 1947 to join in the glorious surgical Te Deum!—*The Journal of the Medical Association.*

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Primary Sarcoma of the Pleura

Blumenau, in the *Deut. med. Woch.*, 1896, No. 4, reports the case of a soldier, 23 years of age, who was seized in the left thorax with a continuously increasing sensation of pressure, which gradually became converted into one of pain, with paroxysms of pain extending downward, and especially marked in the left leg. These symptoms were accompanied with cachexia, marked debility and dyspnea on exertion. There was neither cough nor night sweats. Visible bulging of the left thorax posterior leg, pain on palpitation, absence of any respiratory sounds in the protruding part, and dulness on percussion were the other symptoms. The apices were normal. The examination of urine was negative. The temperature was slightly elevated. These symptoms became more marked, but the bulging in the left thorax remained stationary. Exploratory puncture gave negative results. Cough and expectoration were slight. Then arose a feeling of numbness and stiffness in both limbs which in the course of two days was followed by complete paralysis of both limbs, as well as of the bladder and rectum; absence of patellar reflex and sensibility, decubitus, edema, and a severe attack of dyspnea, followed by sudden death.

The diagnosis of probable sarcoma of the pleura was made and verified on section. In the left pleural sac a large 14-pound tumor was found firmly attached to the posterior wall of the thorax and spinal column. Diverging from the main tumor were many large masses of sarcomatous nodules firmly attached both to the diaphragm and the lower lobe of the left lung. Microscopic examination proved the tumor to be a round-celled sarcoma

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Joseph P. Winston, M.D., George E. West, M.D.,
W. J. Robinson, M.D., L. Schöney, M.D.

Signs and Symptoms of Aortic Aneurism

With this title Dr. Frederick A. Packard read a paper before the Philadelphia County Medical Society on Feb. 10, 1897. Of aortic aneurism it may be said that in well-marked cases the diagnosis is extremely easy; in other cases it may only be made by careful consideration of signs and symptoms; in others its presence may be suspected but not be capable of definite proof; while in others it may be entirely unsuspected.

The signs and symptoms are but poorly adapted to classification, inasmuch as they vary so much in accordance with the seat and relations of the sac. In regard to symptoms, almost none of them are due to the aneurism itself, but most are produced by the influence of the tumor upon neighboring structures. A certain amount of dull pain may be due to the distention of the sac-wall itself, but this is usually entirely overshadowed by that produced by alterations in parts in the neighborhood. For our diagnosis we must depend not so much upon the physical signs of an arterial tumor as upon those due to an abnormal growth of whatever nature.

The typical signs of aneurism may be said to be tumor, expansile pulsation, thrill, bruit, and shock. Tumor is frequently absent; expansile pulsation is in many situations impossible of detection; thrill is a very uncertain sign; bruit is as often absent as present; while shock, whether diastolic or systolic, is frequently absent.

The character of expansion can be determined in thoracic aneurism only when tumor is present. The eccentrically diminishing pulsatory force often suggests the existence of aneurismal tumors, and slips of paper, placed at opposite poles of the expansion area, will often render visible this property when tumor and expansibility are not otherwise demonstrable to the eye or hand. Pulsation in deeply seated aneurism of the aortic arch may sometimes be detected by palpation downward in the episternal notch or by firm pressure upon the chest, applied during expiration, one hand being placed between the scapulæ, the other over the sternum and front of chest. Pulsating empyema can be readily distinguished by the difference in the history of the case, by the absence of other signs of aneurism and by the presence of signs of fluid in the pleural cavity. Thrill and bruit are uncertain signs.

An abnormal area of dullness in the neighborhood of the sternum or in the left spinal gutter is a sign that at once suggests the existence of aneurism.

The writer quotes Stokes as saying that the signs of a typical demonstrable aneurism are those simulating the presence of two hearts beating within the chest; but if we wait for this appearance before making our diagnosis, many an aneurism will be overlooked.

Aneurisms of the ascending portion of the arch are the aneurisms of signs; those of the descending aorta are the aneurisms of symptoms.

A sign of some value is the presence of the capillary pulse of Quincke, the existence of which is probably due to the large reservoir, into which the blood can flow back during cardiac diastole. Inequality of the pupils from pressure upon the sympathetic fibres, when present, is a sign of distinct corroborative value. Unilateral flushing and sweating are of more decided value, but they are, for some reason, less frequent than is the pupillary inequality.

Pressure upon the intercostal and lumbar nerves may for a long time be the only sign of aneurism.

Doubtless most of the distressing cough, and possibly some of the peculiar alterations of the voice, may be due to pressure upon the trachea. Drummond's sign, elicited by placing the stethoscope over the manubrium, having the patient take a full inspiration and slowly allow the air to escape through one nostril, is due to the whiffing character imparted to the air-column by the pulsating tumor. Pressure upon the left bronchus gives us some valuable signs of aortic aneurism. Even a small aneurism, if so situated as to press upon the left bronchus, will cause rhythmic downward excursion of this tube. This movement can be appreciated as a distinct downward "tug" of the thyroid cartilage when the finger is placed below the beak of the larynx.

Cardarelli's sign of lateral movement of the larynx closely resembles the precedent, save for the direction of the movement.

Long-continued pressure on a bronchus leads to retention of secretion, fetid bronchitis, and bronchiectasis, while pressure of the bronchial arteries may lead to the onset of pulmonary tuberculosis.

Pressure upon the esophagus is in many cases the cause of early and serious interference with the taking of food. The association of dysphagia and persistent intercostal or deep-seated thoracic pain should suggest the possibility of pressure by aneurism of the descending thoracic aorta.

The sudden onset of paralysis, of hematuria, of splenic pain with enlargement of the area of splenic dulness, of melena and umbilical pain with symptoms of intestinal obstruction should cause one to think of the occurrence of embolism from the interior of an aneurism.

To pressure upon and erosion of the vertebræ is due much of the pain of aneurism.

The other signs mentioned are Scheele's, Perez's, and Glasgow's. The first the author considers a hazardous proceeding. It consists of consentaneous pressure upon the crural arteries on the two sides, giving rise to pain in the region of the aneurism, with momentary disappearance of the systolic murmur over the tumor and enlargement of the mass. The sign discovered by Perez is the creaking sound heard on auscultation over the sternum in cases of anterior mediastinitis when the patient raises and lowers the arm from the shoulder.

Glasgow's sign the author has failed to find in the cases seen by him lately. It consists in the presence of a distinct thud in the brachial artery. B.

The Rôle of Alcohol and the Acute Infectious Diseases in the Causation of Interstitial Hepatitis

By an ingenious series of bacteriological experiments upon cats, dogs, guinea-pigs and hens, Scagliosi, in *Virchow's Archiv.*, CXLV., p. 3, attempts to show that chronic interstitial hepatitis may have its origin as a result of the acute infectious diseases, and that alcohol is not the only causative factor in cirrhosis. J.

Hints on Sea Voyages for Patients

Dr. George Walter Barber, in a communication to the *Brit. Med. Jour.*, says that while serving at sea he had been struck by the number of people sent away for the benefit of their health with absolutely no directions as to the precautions that should be observed in the tropics, and as to matters which greatly conduce to the comfort and well-being of the patient.

In the first place, it is well that an entire cabin should be secured, especially for phthisical patients, as they are at once a source of infection and also a great annoyance to those occupying the same cabin, and should their complaint become serious it is a necessity.

A crowded ship should be avoided, as, unless the patient has an attendant, he or she cannot have the attention from the stewards and stewardesses that a severe case demands. These last make most excellent nurses, but naturally they are extremely busy in a crowded ship. The cabin selected should be amidships, where the motion and vibration are least felt, and for a voyage via the Suez Canal should be on the starboard side homeward bound and the port side outward bound.

The patient should be told not to neglect to wear a cummerbund over his pyjamas (not nightdress), as the neglect of this precaution frequently leads to severe abdominal pain and diarrhea, and often colitis, owing to the free perspiration which occurs in the tropics being suddenly checked by a stream of cold air from an open port, hatchway, or punkah. This, of course, greatly militates against the good done by a trip.

The patient should never sleep on deck, especially if suffering from a throat disorder, and as soon as he arrives in the tropics he should be told to wear a solar tope, which protects the neck, as those in indifferent health are particularly liable to sunstroke, sun headache, and thermic fever.

The patient should be told to keep on deck as much as possible, and not stay below as they so often do; but they should not sit under a single awning which allows the sun's rays to penetrate. Clothing should be suited to the varying climates, warm clothes for the Atlantic and Mediterranean (according to the time of year) and flannel for the tropics.

All alcoholic cases should be put under the charge of the ship's surgeon at the commencement of the voyage, as he is able to see that they get no liquor.

The morning bath should be taken warm by those who are in delicate health and malarial cases, especially those suffering from enlarged spleen. Very strict orders should be given about diet, as passengers generally eat too much and take too little exercise in spite of the best advice. In the P. and O. service any diet can be procured on the recommendation of the ship's surgeon.

The writer has found the following formula of great value:

Chloroform. pur. 1 drop; tr. nucis vom. 1 drop; tr. lavand., 10 drops; aq. ad 1 dr. M. ft. mist. To be well shaken, and one teaspoonful taken every hour until the nausea is relieved, and liquor morphini acetatis 5 drops if there is much pain. A tight binder will often relieve the pain due to straining, especially in uterine cases. Alcohol is unnecessary in most cases, and many people take too much if left to themselves. Milk and soda, beef tea, beef jelly, should be given in small quantities at frequent intervals, and crushed ice given to suck.

Many patients would derive considerably more benefit from the voyage if medical men made it a rule to give them a few hints before sending them on board ship, and also not to neglect to give them a letter describing their cases, which they may hand to the ship's surgeon should they find it necessary to consult him. B.

Digestive-Tract Diseases

E. Vogt, in *Rev. de Ther.*, 64 Amiee, No. 5, summarizes the observations of Blume on the diseases of the digestive tube. The cholagogue action of the oleate of soda in its exciting effect upon the biliary secretions must not be attributed to irritation of the gastric mucous membrane since the hypodermatic injection of a watery solution of from 1 to 2 gme. produces a cholagogue effect also. For administration the medicament should be purified. It can be obtained in the form of a white powder. This is fusible at low temperature. The drug can be administered in capsules or pills in cases of biliary lithiasis.

The dose, for cholagogue effect, is 1 gme. twice a day. Patients say that very soon their paroxysms are less frequent and less intense. The drug may be taken several months in succession without inconvenience.

Foreign Bodies in the Stomach

E. Vogt, in *Rev. de Ther.*, No. 5 ler Mass., gives this list of foreign bodies extirpated by gastrostomy, with recovery after operation: 1 silver coffee-spoon, a christofle spoon, a fork, 2 pieces of iron wire, 2 hairpins, 12 pieces of glass, a steel pen, 9 needles, a piece of graphite, a shoe-button, 2 pieces of tin, a knitting-nedle, in all some 37 pieces, with a total weight of nearly 300 grn. Suicide was the patient's intent. D.

Acute Lead-Poisoning

Dr. J. M. De Costa, in *Am. Jour. Med. Sci.*, No. 298, cites a case: Symptoms, headache with increasnig violence, speech thick, tongue protruded to right, motion impaired in right arm and leg, sensation impaired, with numbness and coldness in right side. Patient had history of great susceptibility to poisons. Among other points there was observed a bluish line on the gums. Diagnosis of lead-poisoning was made. Magnes. sulph. was used as laxative and urine examined by chemist, who reported lead present. The patient had made use of rooms at her house, and these were freshly painted. Previous to occupation of the apartments the patient was in robust health. The case is rare, in its absence of colic, in its hemiplegia, and its anesthesia.

Aneurism Simulating Spinal Disease

At the March 19, 1897, meeting of the Orthopedic Section of the N. Y. Academy of Medicine, Dr. Ketch related a case in which the patient, a woman thirty-seven years of age, had been advised to seek mechanical treatment for spinal disease. The principal symptoms were radiating pain in the back, loss of flesh, aphonia and occasional dyspnea. Examination revealed a pulsating tumor at the lower part of the carotid triangle and a decided aneurismal bruit. B.

Idiopathic Spasm of the Tongue

Stefano Personoli, in the *Weiner klin. Runds.*, reports a case. The history of idiopathic spasm of the tongue is of recent date. Till now but thirteen cases have been noted, and it can appropriately be considered the most unique condition which the pathology of the nervous system has as yet furnished.

The case in question pertains to a woman 45 years of age. All that can be gained from the history of the patient which could throw any light on her affection is that an inherited nervous diathesis pervades the whole family. The present condition of the patient discovers symptoms of slight catarrh of the apices and marked anemia. Since two months marked nervous irritability and insomnia have set in. After a hot exchange of words during a family quarrel, involuntary movements of the tongue set in, followed by tonic spasm of that organ, which protruded from the mouth. The attack continued several minutes before the tongue through a brusque involuntary backward movement, was again within the oval cavity.

The attacks occurred from seven to eight times daily, and continued from two to three minutes. During the attack the tongue became hard and reduced in dimension. The floor of the mouth also became hard and contracted owing to spasm of the mylohyoideus. The hyoid-bone and larynx were drawn upwards. The end of the attack was characterized by an involuntary lateral movement of the tongue, which resembled the movement of the tongue of an individual licking his lips. Slight muscular twitchings of the lower facial region also accompanied the cessation of the attack.

After the attack the patient suffered considerable pain in the region of the hyoid bone and great annoyance from the copious secretions of saliva A sedative treatment was adopted, and the patient was given from 6 to 8 gme. of KI daily. Under this treatment the nervous irritability was somewhat lessened and a diminution of the severity of the attacks was noticed, though they still continued. The patient discovered that by the insertion of a piece of cork or rubber between the teeth the attack was nipped in the beginning. As soon, however, as the pressure with the teeth was slackened, the spasm became violent. The patient now carries these articles with her in anticipation of any emergency. The attacks at present occur but rarely and are mostly mild in nature. A rigid examination of the nose, pharynx, larynx, mouth, teeth, and eyes revealed nothing abnormal, so that the conclusion is unavoidable that the case is one of idiopathic spasm of the tongue.

Forms of Diabetes

Diabetes is classified by Dr. George Harley in the *Lancet* as follows:

1. Hepatic diabetes, including the gouty variety.
2. Cerebral diabetes, including all cases of saccharine urine arising from nerve-derangement.
3. Pancreatic diabetes, the most deadly form of the disease.
4. Hereditary diabetes, a form by no means uncommon, and one, too, where both brothers and sisters may labor under the disease without either their maternal or paternal parent having been affected by diabetes, though more distant members of the family may have suffered from it.
5. Food diabetes, including all forms of saccharine urine arising from the ingestion of unwholesome substances.

Dr. Harley's plan of treatment includes, besides opium and codeine, croton chloral, strychnine, phosphoric acid for thirst, and an absolute prohibition of alcohol. B.

Habitual Constipation, Diagnosis and Treatment

Dr. Th. Rosenheim, in *Inter. Clin.*, Vol. IV, Series VI, p. 23, 1897, reserves the name "Habitual constipation" or "Atonicity of the bowels" for those cases only, where, in the absence of an organic lesion in the intestines, the number of evacuations is diminished and the interval prolonged beyond the rate habitually pertaining to the individual in question. It is a disorder of a purely functional nature, a neurosis due to motor weakness of the intestinal walls much akin to "motor insufficiency" of the stomach. It is differentiated from chronic intestinal catarrh by the absence of mucus in the stool. An abnormally large quantity of mucus can always be demonstrated in intestinal catarrh, either with the naked eye or microscope. As to the treatment, the author advises a careful search for predisposing somatic or mental influences; the payment of proper attention to complications in the way of organic disease; restriction of purgatives; administration of oil-enemata (one pint of warm olive-oil) once daily till soft semi-liquid stools occur spontaneously, henceforth at greater intervals and smaller quantities; coarse diet, consisting of raw fruit, graham bread, vegetables; diminution of animal food; cold sitz-bath, or friction, massage, electricity by means of the faradic current sufficiently strong to provoke visible contractions of the abdominal muscles, one pole being applied to the abdomen, while the other, in the shape of a stout insulated wire terminating in a button, is carried up three or four inches in the rectum. It is allowed to act from 5 to 15 minutes, with frequent interruptions and shifting of the external plate to different parts of the abdomen.

Poisoning by Corrosive Sublimate—Gangrene of the Mouth, Vulva, Stomach and Intestines

Richardiere, in *L'Union Médicale*, No. 47, p. 553, reports the case of a woman, 25 years old, who, after taking more than three gme. of corrosive sublimate in solution, died in seven days in collapse, with the formation of gangrene of the mouth, vulva, and large intestine.

Emesis, produced by mechanical irritation of the fauces, resulted in the immediate rejection of part of the poison, the amount retained still representing much more than the classic toxic dose, and she was given albuminous water to drink.

On admission to the hospital she complained of severe pain in the stomach and abdomen. There was no tympanites, but the whole region of the large intestine was very tender. There were frequent vomiting and diarrhea; the numerous but small stools containing greenish material, mingled with mucus, but no blood

The mouth was normal, save a blackish line at the base of the teeth. The urine was scanty and could not be obtained.

Second day. The gastric and abdominal pain, and the diarrhea continued. In addition, ulcers appeared in the palate, tonsils, and cheeks, and there was extreme salivation.

Third day. There were continued emesis and diarrhea; both the vomitus and the stools containing dark-colored blood. The mental faculties were unimpaired, but the patient was restless and could not sleep. There was the pulmonary cardiac complication. The urine was scanty and highly colored, and contained a little albumin.

Fourth day. The heart action became rapid, with palpitation, but no murmurs. The ulcers in the mouth were deep and of irregular outline, ragged, and covered with sloughs. Similar gangrenous plaques occupied also the space between the labia majora and minora, and surrounded the vagina and external meatus.

Fifth day. The diarrhea had somewhat diminished. There was extreme pallor of the skin and mucous membranes, and the beginning of collapse.

Seventh day. The patient became delirious and sank rapidly. Treatment consisted of albuminous drinks and milk, and hourly doses of 1 gme. each of bismuth subnitrate and magnesia.

Autopsy showed in the stomach many small ulcerations; numerous ecchymoses along the greater curvature, and a large eschar, 8 x 3 ctm., on the posterior wall. There was no perforation.

The duodenum and jejunum showed marked congestion; the ileum, in addition, being edematous and ulcerated in two places.

In the large intestine were large eschars, arranged transversely, extending as far as the lower rectum, almost entirely replacing the normal tissue, the hard gangrenous plaques resting upon edematous tissue. There was no perforation.

The kidneys showed some congestion and a yellowish-white cortex.

In the heart were many small ecchymoses. The author comments upon the rarity of the involvement of the vulva, and considers that the gangrene was not due to the local caustic action, but to alterations in the blood. The case shows two well-marked periods: the early one of gastro-intestinal disturbance, without constitutional symptoms, the temperature varying between 37.5 and 38.5 C, and the later one of collapse, marked by the formation of gangrenous areas, the appearance of blood in the vomitus and stools, and a subnormal temperature. U.

Paroxysmal Tachycardia Treated by Intravenous Injection of Serum

Revue de Therap. medico-chirurg. (No. 1, p. 19, 1897), gives account of a case reported by Chauffard (*Bul. médical*, No. 16, 1896). A man was seized with acute tachycardia, and on the third day was found in intense asystolic condition, which on the fifth day had become a state of apparent death. Not succeeding in slowing the cardiac pulsations (196 to 220 per minute), or raising the arterial tension, he had recourse to intravenous injection of 1250 cubic ctms. (2½ pints) of artificial serum. Then the pulse beat was 100, but the tension was as low as 14. An hour later the patient had no anguish and breathed freely; the pulse was still 100, but the tension had risen to 21. The next day a diarrhea replaced the polyuria usual after these serum injections, and which reappeared on the third day, when the diarrhea ceased. In grave forms of paroxysmal tachycardia, when syncope threatens, intravenous serum injections quickly increase the tension.

Syphilitic Disease of the Heart-Wall

Dr. Sidney Phillips, in the *Lancet*, No. 3, 1897, arrives at the following conclusions:

1. Syphilis may produce gummata or general fibroid change.

2. Gummata in the left ventricle, except those of very small size, are dangerous to life, and when near the apex of the left ventricle may cause sudden death.

3. Gummata in the left venticle may be suspected if in an individual with syphilitic antecedents there occur signs of derangement of the action of the left venticle with symptoms of defective or embarrassed action, especially angina pectoris, tachycardia, syncopal or epileptiform attacks, or in the right ventricle when dyspnea, otherwise unaccountable, appears.

4. Extreme feebleness of the heart without dilatation, gradually increasing in young or middle-aged persons who have had syphilis, suggests syphilitic disease of the left side of the heart, and long-standing dyspnea may point to similar disease on the right side of the heart.

5. Dilatation of either side of the heart in syphilitic persons may result from syphilitic fibrosis.

6. Hypertrophy of the heart, without ascertainable cause and without corresponding increase in the strength of the heart, suggests syphilis.

7. Aneurism of the heart-wall may result from syphilitic local lesions, and may be fatal with or without rupturing.

8. It is probable that gummata and fibroid disease in early stages may be relieved or cured by the usual specific treatment, and there is every reason to believe that syphilitic lesions of the heart-wall are not less amenable to treatment in their early stages than syphilitic lesions elsewhere, though no cure can be expected where advanced tissue changes are already produced. It is certain that syphilitic heart disease is more common than is generally recognized.

PEDIATRICS

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Epidemic of Infantile Paralysis in the Same Family

At a recent meeting of the Clinical Society of London Dr. Pasteur read a paper (*Brit. Med. Jour.*, April 3, 1897) on an epidemic limited to one household. Every one of the seven children in the same family was attacked in rapid succession within the space of three weeks with fever of moderate severity, accompanied by severe headache. In three of the children, aged 11, 9, and 5, paralytic symptoms supervened within seven days of the commencement of illness. The type of paralysis varied in the different cases. In one there was flaccid paralysis of the left arm; in another right hemiplegia with marked and persistent muscular rigidity of the arm and leg, with more transient paralysis of the face and soft palate on the same side; while in the third case there was paralysis with rigidity limited to the left lower limb. In two more the primary fever was followed by tremors lasting a few days; while in the remaining two the primary fever was not followed by any nervous disturbance. As to the cause of the outbreak, it was possible to exclude the acute exanthemata, diphtheria, and influenza. The points of resemblance with infantile paralysis were held to justify the diagnosis of that cause in spite of the remarkable characters of the paralysis. The cases proved that a poison giving rise in one instance to a paralysis indistinguishable from the acute atrophic paralysis of childhood was also able to determine lesions in other parts of the nervous system. The outbreak further strongly confirmed the growing impression that infantile paralysis is an acute infective disease.

Hypnotics in Childhood

Dr. Comby gives a review of the subject in *La Méd. moderne* (VIII, No. 32). We must avoid the use of hypnotics in children as much as and as long as possible. A correction of the diet will relieve the insomnia in a great percentage of the cases. If this proves insufficient, a warm bath in the evening (90-95° F., 15 to 20 minutes) will frequently be very efficacious. It is good to add to the baths some bran, starch or linden flowers. Or the child may be wrapped in a wet cloth for two hours at a time. When all hygienic means fail, we must have recourse to the pharmacopœia. We should at first try the simplest remedies, such as an infusion of linden tea, camomile flowers, orange leaves, and orange flower water.

Opium should be used in small doses only and with great caution, and principally where the insomnia is caused by a cough, colic or peritoneal pain. Where there is cerebral excitement, in chorea, epilepsy, convulsions, the bromides and antipyrine are indicated (1½ grn. a day for each year of the child's age). In larger doses they may be administered in the form of suppositories or rectal injections. Chloral is very efficacious, and when employed in moderate doses (1 grn. for each year of the child's age) presents no dangers. Chloralamid may be given as follows:

Chloralamid	15 grs.
Syrup of Orange Flower	1 oz.
Water	2 oz.

A coffeespoonful every hour until sleep is produced.

The following formula (very similar to the Mist. Chloral et Potass. Brom. N. F.—Ed.) is very efficacious:

Potass. Brom.	
Chloral Hydrate	āā 30 grs.
Extr. Hyoscyamus	
" Belladon	
" Cannabis Ind.	āā ⅛ gr.
Syrup of Orange Flower	1 oz.
Distilled Water	1 oz. 2 dr.

Teaspoonful every hour until the desired effect is produced.

Of the newer remedies the author has chiefly employed trional, which he considers the best hypnotic of its class. It is well tolerated, and if given in doses of 4, 8 or 12 grn., according to age, it induces a good sleep during the whole or greater part of the night. In some cases the insomnia seemed permanently cured after one or two doses of trional.

Variations in the Weight of Infants After Birth

By weighing over 500 full-term healthy children on the seventh and fourteenth days after birth, Schaeffer, in *Centralb. f. Gyn.*, No. 46, 1896, determined that only 14½ per cent. of all children reach or exceed by the seventh day their weight at birth; 44½ per cent. do not reach their initial weight in fourteen days. The minimum weight occurs on the third day. The initial weight is reached on an average on the ninth day. Boys show less variation of weight than girls. Those babies which at birth weigh more than the average, especially if girls, lose more in weight than the others. Premature children exceeded full-term ones in loss of weight and temperature, and in nitrogenous excretion and in frequency of icterus.

The variations in weight are explained by the active metabolism and extraordinary need of warmth of the new-born child.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

The Condition of the Capillaries of the Brain in Arterio-sclerosis of the Larger Vessels

By a study of fifteen brains, M. Lapinski, in *Wratsch*, 4, 1896, comes to the conclusions that for the small capillaries of the brain there is almost invariably some type of inflammation. In one case only were the capillaries normal. In six parenchymatous inflammation and granulation of the walls of the ear were observed. In all, the lumen was markedly narrowed, in some completely occluded.

Mental Disorders of the Climacteric Period

At the meeting of the Hunterian Society, held in London, March 24, reported in the *Lancet* (No. 3840), Dr. William Rawes read a paper on "Mental Disorders of the Climacteric Period." He first pointed out that medical men are frequently consulted at this period about symptoms which are the precursors of mental disease, and that the climacteric period is liable to considerable variation as to the age at which it appears and also as to its duration. In fifty-six cases the average was just under forty-seven years. Most women suffer from some form of neurosis at the climacteric, and any physical malady is liable to be aggravated, while many women are brought near the brink of mental disease; still, it is doubtful if the menopause is sufficient to determine an attack. Heredity is a potent factor in the production of insanity; it was traceable in 48 per cent. of the cases. The prospect of recovery is not so gloomy as supposed. Previous attacks from whatever cause render the menopause a source of great risk. Alcoholism is another factor. The prognosis is much more favorable when the alcoholism has been a phase in the insanity and not a habit indulged in for years. Grief and mental anxiety are the most common causes which produce a rapid onset of insanity at this period, while remorse is a frequent cause of the restless cases of melancholia. Worry caused by pecuniary losses is a contributing factor, but the most important, on account of its bearing upon treatment, is a combination of circumstances which may be termed "isolation with introspection"; its influence was traceable in 80 per cent. of the cases. This occurs especially in women who, having led active lives, have then little to do. They examine themselves and their feelings, as it were, with a microscope, so that there is scarcely any limit to the number and variety of delusions produced in this way, which in the religious type tend nearly always to become suicidal. In some cases there has been found a history of irregularity and excess in menstruation. Melancholia is by far the most common character of mental disease at the climacteric—it occurred in 60 per cent. of the cases; 25 per cent. had mania; 15 per cent. delusional insanity; 46 per cent. showed a suicidal tendency; there were hallucinations of hearing in 50 per cent.; of taste in 13 per cent.; of vision in 46 per cent., and of smell in 10 per cent. About 50 per cent. of the patients recovered. Treatment consists in change of environments, open-air exercise, diet, electricity or massage, and tonics. The patient should also take up some form of congenial occupation.

If delusions lead to attempted suicide the patient should be certified; but when this is necessary she should be told in a perfectly candid manner why it has been done. Deception practiced on patients is harmful and wrong from every point of view.

In the discussion of the paper Dr. T. F. Woods stated that the most important agent in treatment is sleep, and that hypnotism is useful in melancholia. U.

Dwarfishness, Cretinism, or Myxedema

The Vienna correspondent of the *Medical Press* gives an account in No. 3019 of a case exhibited at the club by Reichel. The subject was a young female, aged 19, who measured 3.8 feet and weighed 59.41 lbs. All the bones were in perfect proportion, but there were a few defects present which might relegate the case to another category than dwarf. The cornea was oval, the pupillary membrane and thymus persisted, she had congenital nystagmus, narrowing of the aorta, hypertrophy of the lymphoid tissue at the root of the tongue and tonsils, all of which go to make up the diagnosis of the status thymicus. In addition to these symptoms he noted the rough, harsh skin, hysteria which assumed the form of unilateral paralysis, a spastic-paretic gait, and anesthesia of the cornea. The intelligence is normal, the menses commenced a year ago, the uterus is infantile, and the hymen intact.

In the discussion, Kassowitz expressed the belief that this was not of thyroid origin, although Reichel draws particular attention to the state of the skin, a symptom often associated with this disease. He was also convinced that all the symptoms of cretinism and myxedema need not be present to produce the "status thyreoprivus." He produced the photograph of a dwarf, aged 4, who was exceedingly intelligent. Umbilical hernia was a common defect among dwarfs. He admitted, however, that Reichel's case might have some abnormal condition of the thyroid, and related the case of a male, aged 20, about the same height and weight, who grew 7.09 inches within two years after commencing the use of the thyroid gland; the genitals also became developed, which had been infantile before. With the narrowing of the aorta and imperfect genitals he was inclined to believe that the gland treatment would meet with some success. U.

Spastic Paralysis

At the meeting of the Orthopedic Section of the New York Academy of Medicine, February 19, 1897, Samuel Ketch read a paper on the orthopedic treatment of spastic paralysis in children. Patients thus affected are those whose mentality is (1) *nil*, (2) diminished and (3) normal, or nearly so. The treatment should include special education of the muscles. The author had never seen any advantage from the use of electricity in any form. Massage has but little value in these cases. Mechanical treatment is directed to improvement in locomotion or reduction of deformity and produces its best effects in the cases whose intellects are least impaired and in deformities and disabilities of the lower extremity. Tenotomy is certainly a useful resort. Opposition to it is based on theoretical grounds. With growth there is a lessening of the spastic element. Patients in whom the deformity is the result of marked spasm resist treatment or are liable to relapse. Apparent mental improvement occurs with better locomotion and general improvement. B.

Hysteria with Strabismus and Ptosis

According to the *Brit. Med. Jour.*, E. Hitzig, of Halle (*Berl. klin. Woch.*, February 15, 1897), points out that disorders of the oculomotor mechanism are rare in hysteria, though diminution of the visual field, and other phenomena due to fatigue of the retina, are very common. The patient, a Polish laborer, aged 36, had previously suffered from "inflammation in the eyes." He had indulged rather freely in spirits. In August, 1895, he wounded himself in the leg. The wound healed rapidly, but unfortunately he got the idea that, as there had been no suppuration, inflammation would occur elsewhere. After a week, in reality, he suffered from ocular inflammation, followed by diplopia and ptosis. This condition lasted a long time without distressing him, but when he found himself unable to see two of his children, who had returned home in September, 1896, he attempted suicide by drowning, and for two days appeared insane. On admission (September, 1896) there was complete ptosis on both sides; both eyes were turned inward and downward.

Later, in November, the pupils did not react to light, and the patient professed to see nothing. There was no evidence of any spasm of the orbicularis muscles. There was partial unilateral loss of taste and smell. Tactile sensation was absent over the whole of the body, and there was analgesia in the right arm, left leg, and left half of the trunk, neck, and head. Temporary improvement in the eye-symptoms had followed chloroform narcosis in October, but their complete disappearance followed electricity and suggestion in November. A temporary partial hysterical deafness was likewise recovered from, and in January, 1897, the patient's condition was practically normal in every respect. Some of the eye-symptoms were evidently due to spasm, namely, the squinting and the myosis. Charcot, in 1888, still believed that all so-called hysterical unilateral palsies of the facial, lingual, and oculomotor muscles were in reality hemispasms. Charcot and his followers had, however, afterward to modify their views, and in the present case Hitzig attributes the ptosis to hysterical paralysis of the levator muscles of the eyelids.

Syphilis and Paresis

An abstract in *The Quarterly Journal of Inebriety* (Vol. XIX, No. 1) gives the following significant passage from a paper by Dr. Williams:

"Practically 75 per cent. of all cases of general paralysis exhibit proof of primarily syphilitic infection." The history of all cases is the "typical man of the world"—ambitious, fond of society and high living, a light sleeper, and a heavy drinker; then come delusions and well-marked paresis. Four cases were noted where syphilitic teeth were prominent, although no history of syphilis could be obtained. Each one had used spirits freely. The pathological conditions in chronic inebriety, syphilis and paresis are alike. The thickened membranes and meningeal changes are the same. The neurosis which predisposes to insanity, paresis, or inebriety may be of syphilitic origin. A history of using alcohol exists in all cases of paresis, and it is significant of contributing causes not yet studied. U.

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A writer in the Charlotte *Medical Journal* recommends sodium salicylate in ankle-sprains. He rolls surgical wool about the ankle, and gives the salicylate internally.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D.,
DAVID M. STÄBLER, M.D.

Achillo-Bursitis Anterior

In a paper on this subject, read before the orthopedic section of the New York Academy of Medicine April 16, 1897, Dr. S. Lloyd stated that the affection was the result of traumatism from tight shoes, shoes wearing the heel, bicycle riding, jumping and fractures; or the result of septic, tubercular, gonorrheal, or rheumatic infection. The symptoms were pain under the tendo Achillis on standing and walking and in the plantar region, swelling on the outer side of the tendon, hyperidrosis, and extensive inflammation of the surrounding tissues. In the treatment, cold and warm baths, the application of tincture of iodine and mercurial inunctions were useless. Traumatic cases required prolonged rest and pressure, and cases having their origin in infection should be treated by incision, curetting, and drainage. B.

Abdominal Contusions With Visceral Lesions

According to Dr. D. T. Gilliam (*Columbus Med. Jour.*, Vol. VIII, No. 6, 1897), exploratory section for the above-named injury is indicated:

1. Where blood is found in the ejecta of the stomach or bowels or in the urine.
2. Where abdominal rigidity, tympanites or other inferential signs of visceral lesion exist.
3. Where patient complains of burning pain, or a sense of grave internal injury.
4. Where there is profound, remittent or recurrent shock.
5. Where from the nature of the injury it is probable that visceral lesion has resulted.

And finally the patient in all cases should be watched closely for forty-eight hours, during which time any untoward manifestation should be the signal for exploration. O.

Increase of Cancer

At a meeting of the Bradford Medical Chirurgical Society, Dr. A. Evans (*The Lancet*, No. 3834, 1897, p. 524) presented a paper on the prevalence of cancer from a statistical point of view. He stated that the Registrar's general report showed that the total number of deaths from cancer in England and Wales during 1894 amounted to 21422, as compared with 11300 in 1875 or about twenty years earlier. The death-rate per mille in the population had risen from 384 in the decennary from 1861-70 to 589 in the same period of time twenty years later, 1881-90, and the increase had steadily increased from year to year. Dr. Evans believes that the real increase is not as great as the apparent increase shown by the statistics, his reason being that, with improved hygiene, more people now attain the age at which cancer is most likely to occur than they did twenty years ago. His second reason is that the precision in medical diagnosis is greater now than formerly, resulting in more cases being classed as malignant than formerly.

However this may be, the statistics, both in England and America, seem to leave no room for doubt that cancer is steadily on the increase. T.

Cuticle Grafting

Dr. A. G. Miller (*The Practitioner*, Vol. LVIII, No. 4, 1897) recommends highly the following method of cuticle grafting:

The surgeon selects a part of the body where cuticle is plentiful (hand or foot). The part is thoroughly cleansed and soaked with carbolic lotion (1 to 20) for at least twenty-four hours. The superficial layers of cuticular epithelium, which are softened by the carbolic lotion, are rubbed and scraped off. The part, which ought to have a new and fresh appearance, all dead epithelium having been removed, is soaked for twelve or twenty-four hours longer with boracic-acid lotion (concentrated). At the end of this double period and double process, the part is again thoroughly rubbed dry, and all effete and possibly septic epithelium removed, and it is then ready for grafting purposes. With a knife or razor the surgeon or dresser slices off thin portions of cuticle from the thickest parts—more especially from any callosities that may be present—care being taken, of course, not to cut to the quick. This is a most essential part of the process, for if one goes deeper than the cuticle the graft is practically a Thiersch, and blood will be drawn and pain caused. The grafts so lifted are at once placed on the raw or granulating surface, and are treated as ordinary skin grafts would be. There is no pain inflicted on the patient, no bleeding or subsequent scar.

The hands and feet are selected for cuticle grafting because there is naturally so much redundant cuticle on these parts. It is possible to remove a very considerable amount of cuticle from the feet without cutting to the quick and causing pain or bleeding. They can be soaked in lotion for days, if necessary, without any inconvenience to the patient. The feet are more available than hands because the necessary covering up of the latter for antiseptic purposes might be very inconvenient.

There are two disadvantages of the cuticle grafting: (1) Rise of septic infection; (2) the cicatrix, though quickly formed (perhaps also because quickly formed), is weak at first. The first disadvantage may, however, be overcome by obtaining strictly aseptic grafts, the second by allowing sufficient length of time for healing. The author concludes, therefore, that the method described is suitable for:

1. Cases in which patients or their parents object to skin grafting.
2. Cases of extensive destruction of skin-burns, for instance—in which the necessary amount of grafts would be difficult to get by Thiersch's or Reverdias' methods. O.

Hysterical Appendicitis and Peritonitis

With regard to the relationship between appendicitis and hysteria, Dr. Talamon (*Med. Week*, Vol. V, No. 13, p. 152, 1897) distinguishes two categories of cases:

1. Cases in which the hysteria is the only cause of the condition, there being no lesion of the appendix—hysterical pseudo-appendicitis.
2. Cases in which the hysteria exaggerates existing symptoms of mild appendicitis, as it does in the majority of acute diseases, so as to suggest the existence of perforation appendicitis and diffuse peritonitis—appendicitis with hysterical peritonism.

Hysterical pseudo-peritonitis, as a rule, has a hyperacute course, but may also be subacute or chronic, in which case it is described as hysterical tympanites. In such cases, it usually simulates tubercular peritonitis, and, if it be associated with symptoms of mucous or muco-membranous colitis, then pain, alternating diarrhea and constipation, vomiting and sometimes even fever, render the diagnosis extremely difficult. O.

Appendicitis and Muco-Membranous Enterocolitis

In a communication to the Paris Academy of Medicine, Dr. A. Robin (*Med. Week.*, Vol. V, No. 5, 1897) expressed the opinion that appendicitis and muco-membranous colitis are, in a large number of cases, the ultimate manifestations of the influence on the intestine of a certain variety of dyspepsia, and that, by suitable treatment of this dyspepsia and its first intestinal symptoms, muco-membranous enterocolitis and appendicitis may usually be averted.

The dyspepsia in question is characterized by a special group of symptoms, viz., gastric hyperesthesia. The connecting link between appendicit s and this gastric hyperesthesia is coprostasis, especially in the descending colon and the sigmoid flexure, then in the cecum. In one-third of all cases, the coprostasis is cecal and colic at the same time.

Muco-membranous enteritis, like appendicitis, is an intestinal manifestation of gastric hyperesthesia. Although, in all cases of muco-membranous enterocolitis under his observation, the affection coincided with coprostasis, he does not believe that it is due exclusively to the latter, for, if so, it ought to be invariably present in constipation, which is far from being the case. There must consequently be another factor, and this is gastric hyperesthesia with preceding hyperacidity.

If appendicitis and muco-membranous enterocolitis are really both manifestations of the effect on the intestine of gastric hyperesthesia, the former due to cecal, the latter to colic and sigmoidal coprostasis, it is easy to understand that they may coexist when the coprostasis is both cecal and sigmoidal.

These facts may contribute to reconcile the widely divergent opinions, expressed before the Academy on the subject of the relationship between appendicitis and muco-membranous enterocolitis.

This theory of the pathogenesis of appendicitis leads to the following therapeutic and prophylactic deductions:

Inasmuch as gastric hyperesthesia always constitutes a predisposition to appendicitis and muco-membranous enterocolitis, particular attention must be paid to the condition of the cecum in such cases. As soon as coprostasis is found to exist, the feces must be expelled by means of purgatives or gentle massage.

When the bowel has been relieved, the greatest precautions should be taken to prevent a recurrence of the coprostasis. For this purpose the various intestinal antiseptics are useless, if not dangerous. He also is opposed to the use of opium at the early stage of appendicitis.

The same remarks hold good in respect to the treatment of muco-membranous enterocolitis, which, as a rule, may be cured by free irrigation of the intestine and the regular use of small doses of castor-oil, associated with diet and special treatment of the gastric hyperesthesia.

There is consequently a prophylactic treatment of appendicitis, consisting in combined treatment of the gastric hyperesthesia and the coprostasis. B.

EYE, EAR, NOSE, AND THROAT

JOHN C. LESTER, M.D., HEBER N. HOOPLE, M.D.,
VINCENT GOMEZ, M.D., WM. C. BRAISLIN, M.D.

Trachoma

Dr. Sous (in *Jour. de Méd. de Bordeaux*, Sept. 27, 1896) gives a study of the nature, pathogenesis and treatment of trachoma.

Knowing the nature of trachoma, the treatment should aim at the destruction of the parasite in the sub-conjunctival tissue and should be medical and surgical.

The medical treatment is arranged under four headings: 1st, astringents; 2d, caustics; 3d, irritants; 4th, antiseptics.

The *astringents* combat only the hypersecretion and hyperemia.

The *caustics* may destroy the granulations, but they also destroy the conjunctiva and cause cicatrization hurtful to the cornea.

The *irritants* set up inflammation to aid nature in eliminating the harmful agent. Often this action is useless, because too intense, increasing existing irritation. Such may be from use of $CuSO_4$, $AqNO_3$ (pure) iodine.

According to the author, these latter substances did not benefit by a substitutionary action coming to the aid of nature, but by penetrating into the tissues by absorption, realizing the advice given by Galen himself to make scarifications of the conjunctiva to effect penetration of the remedies deep into the tissues.

Applications to the surface of the granulations are ineffectual; they must sink into the subjacent tissues.

Hemianopsia In Cerebral Abscess of Otic Origin

In a fatal case of otitic brain abscess, with autopsy, Lannois and Jaboulay in the *Gaz. méd. de Paris*, 37, 1896, cite the following symptoms: Alexia, optic aphasia, right-sided hemianopsia, agraphia and right-sided facial paralysis.

The autopsy showed the presence of a large abscess in the center of the left occipital lobes; also a diffuse encephalitis of the base of the first frontal lobe, and at the base of the central lobes of the left hemisphere. J.

New Operations For Congenital Ptosis

Ostwalt in *Rev. gén. d'Ophthal.* (Vol. XVI, 1, p. 40) sums up the technique of H. Wolff as given in *Arch. für Augenh.* (Vol. XXXIII, 142, pp. 125-144, 1896). (1) Make a cut through the skin 2 ctm. in length at the upper edge of the tarsus, and dissect up the skin a distance of about 3 ctm. upwards, and almost to the free border of the lid downwards, exposing the orbicularis muscle. In the middle of this field at the top of the convex border of the tarsus, seize with forceps a fold of the orbicularis 1 ctm. wide containing as well the tendon of the levator palpebrae, which is inserted in the middle of the anterior surface of the tarsal cartilage. This fold is separated on each side by a vertical cut of the scissors and stretched to make sure that the tendon is well raised by the forceps. Two strabismus hooks are passed under it, one upwards and the other downwards to the insertion of the tendon. Then two catgut sutures double-needled are passed horizontally through the fold at a point as far above the insertion of the tendon as corresponds to the difference in height of the two palpebral fissures; that is to say, to the amount of ptosis. These are tied and the fold is cut just below the knots. Then the four needles are passed through the end of the tendon attached to the tarsus at the very point of its insertion and the sutures are firmly tied. The skin is then sewed. Thus the orbicular muscle is weakened at the same time that the levator is shortened as much as the ptosis demands.

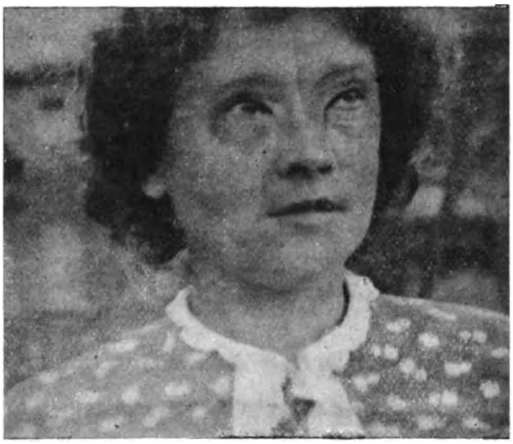
(2) The second method is applied to Müller's muscle from the conjunctival side of the lid. Under narcosis the lid is double-turned outward so as to present the conjunctiva between the superior border of the tarsus and the fornix, the lid being held by Snellen's lid-forceps.

A fold of conjunctiva, at the operator's right as he faces the patient, is seized and snipped by the scissors. The conjunctiva *alone* is separated carefully from right to left by the aid of blunt-pointed scissors and is cut horizontally 2 ctm. long and the upper and lower conjunctival flaps turned back. This displays Müller's muscle inserted at the convex edge of the tarsus forming a reduplication of the elevator tendon. A band of the vertical fibres 1 ctm. wide is seized and separated at the middle of the muscle, by a vertical cut with the scissors on each side, from the elevator tendon. As before, the sutures are passed at a point which measures the shortening needed to connect the ptosis, a double-needled catgut being passed through the middle of the muscular fold and returned horizontally. The same thing is repeated with the second suture only entering the muscle from the opposite side. The threads are tied, the band is cut and the four needles are passed through the insertion of Müller's muscle at the edge of the tarsus, taking in a little of the tissue of the tarsus itself. The corresponding ends of the two sutures are then tied. A simple suture of the conjunctiva ends the operation, care being taken to bury the knot in the wound so as not to have it irritate the cornea.

The author shows photographs of the patients thus successfully treated, one by the first and three by the second method. Ostwalt has also successfully used the second.

Uniocular Epicanthus With An Unusual Etiology

Dr. Vincent Gomez reports a case of this sort (*New York Med. Jour.*, April 17, 1897) occurring in a woman twenty-nine years of age. The patient has had scleroderma for eight years. The ocular deformity was first noticed four or five years ago, which progressed slowly in the left eye. The right is so slightly affected that one may say that this eye is normal. The case is well illustrated in the appended cut.



The condition reported has never been noted before. B.

Trachoma Treated with Ichthyol

In the search for a new remedy to replace the ones heretofore used, such as silver nitrate and copper sulphate, due regard, says Dr. M. Eberson, of Tarnow, must be had to the following characteristics that the remedy must possess: (1) It must contract the dilated blood-vessels; (2) it must reduce the infiltrated conjunctiva; (3) it must relieve hypertrophy and hyperplasia; (4) and it must relieve the subjective symptoms—such as pain, epiphora, photophobia, etc.

From theoretical considerations, ichthyol is the remedy that most closely agrees with these characteristics. It acts eminently as an astringent upon the blood-vessels, and reducer on the tissues. It possesses, also, special preferences, as it is not caustic in the sense that other remedies are; its action is due more to a mild astringent effect on the tissues under treatment.

Besides these, it forms no crust, such as is well known to disturb the free secretion of the glands. Ichthyol penetrates deeply, according to the writer's experience, and acts, therefore, on the deeper tissues. Consequently, as ichthyol is not caustic, and causes no disturbance in the tissues, it leaves no scar on the conjunctiva, such as is usually left by other remedies in the treatment of trachoma.

The best means of application of ichthyol is in a solution made after the following formula:

Ichthyol	50
Distilled Water	40
Glycerin	10

The everted lids are thickly painted with this solution, which is allowed to remain on for sixty to ninety seconds, and then energetically washed off. The slight burning sensation is of but very short duration, and disappears even before the washing is finished. The applications may be made daily, but at first it is desirable to make them every other day. A notable difference in the effects of silver nitrate and ichthyol is, that, after the application of silver nitrate, and even more after copper sulphate, a considerable secretion takes place for about twelve to twenty-four hours, and accompanied by burning and at times not inconsiderable pain, whereas not even a trace of these follows the use of ichthyol.

There are cases of decided hyperemia of the conjunctiva involving the cornea, in which, from one cauterization to another, the patient suffers greatly. If, therefore, the ichthyol treatment gave no better results than the remedies heretofore used, it should still be greatly preferred, on account of the absence of the painful symptoms otherwise encountered.

A patient is cured by means of caustic without consideration of his personal sufferings, whereas with ichthyol the treatment is more humane, since it immediately subdues the most tormenting symptom—the pain. Ichthyol is indicated in every stage of trachoma. In children under 10 years of age, it is advisable to use a weaker solution, say about 30 per cent.

The author also found the remedy to be very reliable in cases of beginning pannus or corneal affections, inasmuch as after two to three days' application the complications surely disappeared. Even in conjunctivitis blennorrhoica acuta and chronica, it yields good results.

From the results obtained the writer therefore believes that ichthyol will occupy the first rank among remedies intended for the treatment of trachoma.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D., HOMER E. FRASER, M.D.

The Relation of Leucoceratosis to Epithelioma

In a communication to the French Surgical Congress, Le Dentu (*Rev. de chir.;* ref. in *Amer. Jour. Med. Sci.*) draws a comparison between the clinical and pathological relations of these tumors. He arrives at the following conclusions:

1. The relations of the epithelioma with leucoceratosis, affirmed by the majority of dermatologists and by several surgeons, merit particular attention.

2. The study of this affection has led observers to admit of several varieties, of which all perhaps are not equally predisposed to change.

3. Histological researches show that this disease is essentially characterized by the hyperkeratinization of the epithelium of the mucous membranes; that the development of the epithelioma is often preceded by a partial dekeratinization, followed by cellular infiltrations, but that this may sometimes take place beneath and sometimes in the midst of the corneal layer.

4. The facts reported, without counting those which he remembers but vaguely, lead him to think that the malignant change of these masses is pretty frequent.

5. If certain leucoplastic epitheliomas of the tongue resemble ordinary epitheliomas of this organ—if those of the cheek appear as malignant as those which have another origin, perhaps in the tongue or the lips—this disease has from time to time a special mode of development, and is less severe than the common cancroid.

6. When the leucoceratosis progresses from other origins than those which have already been the seats of operation, the cure may continue perfect on the surface and in the region of the wound.

7. Should old or new formed masses be attacked by epitheliomatic degeneracy, some distance from the point already operated upon, the wound and adjoining parts may remain untouched by any change.

8. From the foregoing, it results that if the epitheliomatic changes, in the present state of science and in spite of the tolerable frequency, may not be considered as an inevitable phase of the disease, one may and must think that it is caused by an inherent predisposition to leucoceratosis itself.

9. As long as the leucoplastic masses are of a simple nature it is permissible to try the efficacy of medical treatment, directly or indirectly, before having recourse to surgical methods; but prolonged waiting always offers some risks.

10. On the other hand, any change represented by a papilliform development—a fissure, an exulceration having resisted the thermo-cautery or a mild solution of caustic—renders surgical intervention necessary. To be efficacious this must be early and radical. B.

Venereal Diseases Among the British Troops in India

This is the subject of an editorial in the *Medical Times and Hospital Gazette* (London), March, 1897. The article is mainly an abstract from the report of a committee appointed to investigate the cause of the increase of venereal diseases in the British army stationed in India. The greatest increase has been in primary and secondary syphilis. From 1867-1895 the admission rate for primary syphilis rose 130 per cent., and for secondary 188 per cent—the last being four times more prevalent in 1895 than in 1873. In 1895 an average of 32000 out of 71031 men were in the hospital sick from some form of syphilis. Judging from the hospital records, the committee calculated that should it become necessary for the whole army to take the field, 8880 men would be incapacitated from this one cause. Many young men (under 25 years) are constantly sent home perfect wrecks from syphilitic deformities or ruined constitutions. These same invalided men are allowed to mingle with their home people, and in time the disease is transmitted to their children. A peculiar feature of this all is, that other vices common in all stationary armies have become considerably lessened. Drunkenness and crime of all sorts have greatly diminished. The conclusions arrived at are that the young men are, for obvious reasons, obliged to remain unmarried, and removed from home ties and restraints, are unable to resist the temptations of climate, environment, etc., conducive to sexual indulgence. S.

Herpes Tonsurans in the New-Born

Dr. Toch, in *Arch. f. Dermat. u. Syph.*, XXXII, 3, reports a case in a child 14 days old. The appearance of the circular patches on the face and scalp, the microscopical examination, the bacteriological isolation of the tricophyton fungus and the infection (inoculation) of another child left no doubt whatever as to the affection being true herpes tonsurans. The source of the infection remained unknown. M.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

The Present Prognosis After Extirpation of Mammary Carcinoma

K. Joerss, in the *Deut. Zeit. f. Chir.*, B. 44, H. 1 and 2, S. 101, gives figures from the surgical clinic of Helferich at Greifswald. The author calls attention to the fact that cancer was not long since regarded as a constitutional disease, and hence inoperable. From this standpoint of absolute pessimism the operative treatment of mammary carcinoma has made great advances, especially in recent years, since the radical or complete operation has been more or less generally adopted, until we now have in a few instances (Watson Cheyne and Rothe) 54 per cent. of permanent cures.

Ninety-eight cases were operated upon by Helferich between the years 1885 and 1893, at the University Clinic, at Greifswald. All of these cases were traced up to March, 1896; the oldest for a period of eleven years, the most recent for three years.

In addition to the ninety-eight cases in which a radical operation was performed, forty cases were operated upon as a palliative measure. Thus 29 per cent. of the cases treated were inoperable from the standpoint of radical cure. In many of the other cases in which a radical operation was performed, the prognosis was unfavorable.

In but two of the ninety-eight cases was the primary tumor smaller than a walnut. In ten cases it took the size of a dove's egg or walnut. In forty-eight cases it was between the size of a hen's egg and goose egg. Twenty-three times it was the size of a fist, or involved the entire breast.

In eight cases there was no swelling of axillary glands. In two cases the axilla was not opened. One of these cases is still living; the other died at the end of a year, from an unknown cause. In two cases the glands were enlarged in both axillæ, and in seven other cases the supraclavicular as well as axillary was swollen.

Infiltration of the pectoral muscle—a very unfavorable condition—existed in twenty-nine patients, or 28.6 per cent. The final history of these cases is of great importance. Of these twenty-nine cases there remains after the first operation only *one* cured. Two others were cured by further operation for recurrence of tumors. One died two years and eight months after operation, without local return. Six others died without local recurrence, from metastases.

These results are similar to those of V. Bergmanns, in which, out of forty-four cases that had passed the three-year period, pectoral involvement had been noted in but three cases; while in König's statistics of ninety-one similar cases, not a single instance of pectoral involvement was noted.

The method of operation adopted by Helferich was free excision of the entire breast, together with the axillary glands and fatty tissue. Since 1890 he has always removed the fascia of the pectoral muscle, and in cases where the tumor was even slightly adherent to the pectoral muscles, total extirpation of the sternal and clavicular portions was performed.

Premature Menstruation

In the *Union méd. du Nord-Est*, No. 2, Jan. 30, 1897, cited by the *Brit. Med. Jour.*, E. Seuvre records the case of a girl, aged 4 years and 9 months, who had a sero-sanguinolent vaginal discharge, well-marked mammæ (like those of a girl 15 or 16 years), enlarged labia majora covered with scanty hairs, and a broad pelvis. About a year previously the broadening of the pelvis and the mammary enlargement had been noted, and the child had become graver and more affectionate. There was no history of premature sexual development. B.

Ectopic Gestation

Dr. J. Coplin Stinson (*Ther. Gaz.*, March, 1897), in a paper on this subject, says that, after a study of the cases cited and comparison of the methods used by various physicians and surgeons, he draws the following conclusions:

1. That ectopic gestation is strictly a surgical disease.

2. That an ectopic mass should be removed by abdominal section as soon as the diagnosis is made, no matter what the stage of the disease.

3. That with careful antiseptic and aseptic precautions, provided the operator is familiar with the special anatomical condition associated, an operation for ectopic gestation has a mortality at or about *nil*, or less than that associated with the condition previous to operation.

4. That an ectopic mass should be removed by enucleation, with ligation of vessels only, using absorbable ligatures. The pedicle should not be transfixed or tied off in sections, but should be cut across, and only the individual vessels ligated. This does away with mass, non-absorbable and

dead ligatures, sloughing and painful stumps, pelvic exudates, the cautery, wandering ligatures, etc.

5. That enucleation is the safest, simplest and most scientific method of removing an ectopic mass, etc. There is no danger of a hemorrhage. If a vessel is severed it can be caught at once and ligated.

6. That with enucleation there is less danger of injuring adjacent viscera. Recovery is rapid, and the danger of sepsis is reduced to the minimum.

7. That when a Fallopian tube is removed the operation should be complete; no stump should be left. When the serosa of the tube at the tubo-uterine junction is not totally destroyed it should be divided in a circle about a quarter of an inch from the uterine cornua, dissected back to the uterus, and the cut edges, after cutting off the tube flush with the uterus, united by a continuous catgut suture.

8. That in removing an appendage, etc., by enucleation, the cut edges of the broad ligament should be united with a continuous absorbable suture.

9. That, even when both appendages are removed, a uterus that is in good position and not irreparably diseased should not be removed.

10. That if there is local or general infection the cavity or cavities should be freely flushed with hot saline solution.

11. That if drainage is necessitated, one or more Morris' capillary gauze wicks should be used instead of iodoform or other gauze packing, glass, or other swift tubes.

12. That to prevent hernia the incision should be small, using, if drainage is necessitated, capillary wicks, and the wound be closed layer by layer separately, and thus accurately, with sterilized chromicized tendon or chromicized catgut. B.

After-Pains and Their Treatment

In ordinary cases a light meal, moderately warm, is all that is required to allay the distress occasioned by after-pains; in some cases, however, the pains are so severe that recourse must be had to a sedative. In the January number of *La Clinique* it is stated that there is nothing that will give as much relief as amyl nitrite, properly used. The most convenient method of administration is to give the patient an inhaler made of a small tube open at both ends, and containing several small rolls of blotting-paper, on which 5 or 6 drops of amyl nitrite have been placed, and which can be well corked. When the pains occur the corks can be removed and the vapor inhaled with perfect safety, and excellent results.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Lesions of the Nerve-Centres Produced by the Toxin of the Bacillus Botulinus

M. G. Marinesco, in *La Sem. méd.* (No. 61, p. 488), mentions a microbe, anaërobic motile, presenting numerous cilia and whose toxin is very active, isolated from a ham, which had caused grave and even fatal accidents.

Inoculation with this microbe and with its toxin, even administration of the latter by the digestive tract, produces in the cat, monkey, etc., a series of phenomena, such as mydriasis, partial paralysis, aphonia, impossibility of deglutition, etc., which exactly resemble certain conditions occasionally observed in man. The cerebrospinal nervous system presents interesting lesions. The most marked lesion is in the spinal marrow. The anterior and posterior gray matter are almost exclusively the parts affected. In certain cases intense hemorrhages were noticed in the anterior gray substance.

Since these lesions may be produced by a toxin acting through the medium of the digestive tract, we believe that the experiments tend to throw some light on certain facts of polioencephalomyelitis, the pathogenesis of the symptoms of which is unknown to us. T.

Action of Rattlesnake Venom Upon the Bactericidal Properties of the Blood.

The *Kansas Med. Jour.* (Vol. IX, No. 5, p. 60) reports the results of some experiments, made by Dr. W. H. Welch of Johns Hopkins University and Dr. C. B. Ewing, U. S. Army, to determine the action of rattlesnake venom upon the bactericidal properties of the blood.

Rabbits were killed with venom obtained from the living rattlesnake. Blood was withdrawn by means of a sterilized glass pipette from the right auricle and the posterior vena cava of these animals immediately after their death. Blood was also taken from a healthy animal for control purposes. After standing in the refrigerator 24 hours, 1 to 3 c.c. of venom serum and normal serum were pipetted into sterilized tubes and inoculated with the bacteria to be tested. Cultures were previously made to determine the number of bacteria inoculated into the serum. The Bacillus coli commune and the Bacillus anthracis were the bacteria used.

The experiments showed that the blood serum of rabbits killed with the venom, was nearly entirely devoid of the power of destroying the bacteria used for the experiments, whereas normal serum was capable in a few hours of destroying thousands of these bacteria.

The bearing of these experiments upon the rapid development of post-mortem decomposition following death from snakebites was considered. U.

Tetanus Cured by Tizzoni's Antitoxin

M. Ranfagni reports in the *Riforma med.*, No. 218, p. 807, 1896, a case of tetanus in a child cured by injections of Tizzoni's antitoxin. The case shows the curative value of the remedy, which has heretofore been regarded more as a prophylactic. J.

Formaldehyd as a Disinfectant

Dr. E. A. de Schweinitz (*The Charlotte Med. Jour.*, Feb., 1897, p. 165) says that a disinfectant to be thoroughly satisfactory must fulfill a number of conditions. It should destroy surely and quickly the most resistant forms and spores of injurious bacteria. It must be a substance that can be easily used, non-toxic and non-destructive to mineral or vegetable matter in the concentration necessary to insure complete disinfection. Further, it should be a substance which can be applied in a gaseous condition to secure thorough contact and penetration of the objects to be disinfected. Again, it must be a substance which is stable in character, not easily decomposed, cheap, and which, if possible, possesses an odor capable of ready dissipation, and a good deodorizer. To a certain degree formaldehyd possesses all these properties, and its practical use has been the subject of a number of investigations. Commerically, we find formaldehyd in the market as a 40-per-cent. solution of the gas in water or alcohol under the trade names of formalin and formol.

We give the following conclusions formulated by Walter:

1. Formalin in concentration 1:10000 makes the growth of anthrax, cholera, typhus, staphylococcus and diphtheria impossible.
2. In gaseous form a very great dilution is sufficient to check growth.
3. A 1-per-cent. solution will kill pathogenic organisms in an hour.
4. With a 3-per-cent. solution, and the final addition of alcohol, it is possible to make the hands germ-free. Whether or not the hands are attacked by this method remains to be proven.
5. By spraying with formalin solution and subsequent enclosure in a closed space, articles can easily be made sterile.
6. Uniforms, etc., on a large scale, can be disinfected without injury, in twenty-four hours.
7. Feces are deodorized by a 1-per-cent. solution, and are in thirteen minutes germ-free.

Formaldehyd is a useful etching and preservative material.

Compared with other disinfectants, as sublimate, carbolic acid, lysol, etc., formalin has the advantage of not being acted upon by albuminoid matter. An objection to formaldehyd is that it adheres to clothing and upholstered material so firmly, but this can be removed by a careful ventilation or by the use of a dilute solution of ammonia, which readily absorbs the gas.

Formalin is also useful as a means of preserving foods, milk, etc., 1:10000. B.

Sarcina Ventriculi in the Feces

The writer, Dr. L. Zoja, in contributions from the laboratory of the University of Panna (*Gaz. Med. di Torino*, Jan., 1897, p. 1), reports the occurrence of Sarcina ventriculi in the feces in two cases of severe gastritis, accompanied with a great deal of fermentation. J.

Occurrence of the Malarial Parasite

The finding of the organism of malaria in nature from standing water in the city of Havana is reported by Coronado in *Cronica med. quir. de la Habana*, 1896, 9.

He found, in addition to the ordinary fresh-water organisms and bacteria, large numbers of the Laveranea in all stages of their development, and was able to cultivate them for a time. J.

On the Sterilization of Milk

Marfan combats the idea that is so widespread among the laity that sterilized milk is safe. He has had an occasion to report (*Rev. int. de Méd. et Chir.*, No. 18, 1896) a severe epidemic-like outbreak of severe gastroenteritis in young children. These children were all fed from milk that had been carefully sterilized and then delivered by the company. Upon investigation, it appeared that the milk was sterilized sixteen hours after milking. While the sterilization was abundantly able to kill the bacilli, they had had time in the meanwhile to multiply and develop toxic substances, which were the cause of the outbreak. J.

NEW REMEDIES.

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.,
DAVID M. STABLER, M.D.

Cordol, Cordyl, and Cordeine

Three new medicinal compounds have been introduced under the names of "Cordol," "Cordyl," "Cordeine," of which cordol is, chemically, tribromsalol; cordyl, acetyl tribromsalol; and cordeine, methyl tribromsalol.

Cordol is insoluble in water, very difficultly soluble in alcohol and ether, more easily so in glacial acetic acid, acetone, and in chloroform, and very easily in xylene and in benzine. It crystallizes from hot glacial acetic acid in long, slender, white needles; obtained from chloroform the needles are somewhat shorter. They melt at 195° C.

Cordyl is also insoluble in water. The crystals obtained from alcohol are in the form of fine, white needles that melt at 108.5° C.

Cordeine also is insoluble in water, very easily so in chloroform, and somewhat more difficultly so in 90 per cent. alcohol, from which it crystallizes in the form of fine, white needles, melting between 126 and 127° C.

Cordol contains 53.21 per cent. of bromine, whereas cordyl contains 48.68 per cent., and cordeine 51.61 per cent.

Clinical observations have been carried out by Dr. Josef Rosenberg (*Der Frauenarzt*, 1897) with cordol and cordyl, but so far not with cordeine. The single doses given were from 0.5 to 2 gme. (8 to 30 grn.), or from 0.5 to 1.5 gme. three or four times daily. The author states that perhaps larger doses may be given, but in his practice he has had no occasion to give any larger ones. The most convenient method of taking cordol, it is stated, is to place the remedy in its crystalline form on the tongue, and wash it down with a draught of water. Both cordol and cordyl are tasteless, and are, therefore, willingly taken, more particularly as they are both easily borne by the stomach. No unpleasant nor dangerous by-effects have as yet been observed by the author. It has been found that cordol in doses of 1.5 to 2 gme. (23 to 30 grn.) acts as a hypnotic, and that doses of 1 gme. reduce the pulse frequency when due to reflex action. whether accompanied by heart trouble or not. Among other properties, cordol is said to be a hemostatic, useful in excessive menstruation in doses of about 1 gme. three times daily; it very favorably influences nausea and vomiting, whether due to digestive disturbances or to reflex action; for instance, in the vomiting of pregnancy, meningitis, peritonitis, etc., and the nausea accompanying violent headache; it relieves cramps and tetanoid conditions, such as migraine, intestinal colic, vesical spasm, strangury, etc., in doses of about 1 gme.; it relieves every kind of pain, whether due to rheumatic or neuralgic influence, or caused by an inflammatory condition of the tissues. It is also stated that the employment of cordol, and also of cordyl, is particularly valuable in all conditions due to an increased nervous excitement. F.

Holocaine

Holocaine is a new anesthetic said to be particularly suitable in ophthalmological practice. Chemically it is para-diethoxyethenyldiphenylamidine, and is formed by the condensation of phenacetin and paraphenetidin with the elimination of water.

Holocaine is a powerful base, crystallizing beautifully, insoluble in water, melting at 121° C., and forming sparingly soluble salts. Its hydrochlorate crystallizes in white needles, freely soluble in boiling water, the liquid retaining, however, but 2.5 per cent. of the salt on cooling. The aqueous solution is slightly bitter, perfectly neutral, and remains undecomposed on boiling in porcelain vessels. If the boiling be conducted in glass vessels, a turbidity may occur, owing to the presence of alkali from the glass. Solutions of the hydrochlorate have been otherwise found to be very permanent, a 1-per-cent. solution remaining perfect for two months in open vessels.

Holocaine hydrochlorate was employed by Dr. G. Gutmann (*Deut. med. Wochenschr.*, XXIII, p. 165) in 30 cases, including 8 of normal eyes; 13 cases of foreign bodies in the cornea, 2 of keratitis, and 7 of operations of the eye. As a rule from 2 to 5 drops of a 1-per-cent. solution were dropped upon the cornea if possible, and the insensitiveness of the cornea tested at intervals of 1 or 2 minutes with the button of a sterilized sound.

The results obtained were as follows:—(1) A slight burning sensation was almost always felt after the instillation, which, however, caused no suffusion nor increased this when previously present. The slight irritation disappeared within half a minute. (2) A single installation of from 3 to 5 drops of the solution produced a total corneal anesthesia in one minute, that lasted on an average for nine minutes, with an arrest of sensitiveness to touch and pain, and of reflex irritability, and a general diminution of the sensitiveness to pain and temperature. Even when the eye was greatly inflamed and strongly congested (as in purulent corneal ulcer with iritis), a single instillation of 4 drops of the solution caused complete anesthesia. (3) The duration of anesthesia ranged between 5 and 15 minutes, say from 9 to 10 minutes on an average; a period which may be prolonged by a further application of the remedy. No cumulative effect was ever noticed. (4) The cornea remained moist, smooth, and brilliant in all cases throughout the entire time; no drying out of the epithelium, such as accompanies the use of cocaine, was ever observed. (5) The ocular tension remained in all cases unaffected, no diminution, as is had with cocaine, being ever noticed. (6) The pupils remained unaltered, neither enlargement nor diminution occurring; nor were the eyes ever observed to bulge, nor the eyelids to open further than normally. (7) The accommodation remained unchanged.

The writer believes that holocaine may advantageously replace cocaine in eye-affections, as well as for the treatment of diseases of the mucous membranes of other organs. F.

Quinine Glycerinophosphate

Quinine glycerinophosphate, $C_3H_7O_3.PO_3(C_{20}H_{21}N_2O_2)_2$ occurs in colorless, acicular crystals, easily and clearly soluble in hot water and in alcohol, and containing 68 per cent. of quinine. It combines the therapeutic properties of quinine and those of glycerino-phosphoric acid (*Therap. Woch.*, IV, p. 279), whose salts are known to be among the most efficacious of nervine tonics. Quinine glycerinophosphate is said to be indicated in all cases of malnutrition, accompanied by malarial trouble. Its use is recommended also in neuralgias, and in the convalescence following serious febrile diseases. It is best administered in pill form, as follows:

Quinine Glycerinophosphate	3 gme.
Sugar of Milk	1.5 gme.
Syrup	to make 30 pills.

Sprinkle with powdered talcum.

Dose: 1 to 3 pills, three times daily. F.

Argentol

Argentol is a compound of quinaseptol with silver.

It is described as a perfectly non-irritating, non-poisonous, difficultly soluble powder, that may be easily dusted upon surfaces, whereby it may advantageously replace iodoform and the silver salts that yield silver oxide instead of silver upon decomposition; since argentol is so easily decomposed that upon mere boiling with water it yields metallic silver in a state of finest division.

Argentol is used in the form of powder on wounds, granulations, syphilitic and old sores, in skin diseases, ulcus molle, etc.; as an ointment with vaselin or lanolin, 1 :50 or 100; and, suspended in mucilage or in emulsions, as an injection in gonorrhea, in strengths of 1 :300 to 1 :1000. F.

Kryofin, an Antipyretic

A new antipyretic has been introduced under the name of "kryofin." Chemically it is methylglycolic-acid phenetidin. It is a condensation-product prepared by heating paraphenetidin and methylglycolic acid at a temperature of 120 to 130° C.

It crystallizes from water in the form of white, odorless crystals melting between 98 and 99° C. It is soluble 1 :52 in boiling water, and 1 :600 of cold water. In concentrated solution its taste is bitter and biting. As a febrifuge, it is always administered in powder form, in cachets. The dose which gives best results is 0.5 gme., being equivalent in effect to 1 gme. of phenacetin, thrice daily. Kryofin has been used in numerous cases, and results prove it to be a very trustworthy febrifuge.

Dr. Hermann Eichhorst (*Deut. med. Woch.*, XXIII, p. 257) has also found it to be beneficially active in the fever of phthisis, in pseudo-diphtheria, in tubercular meningitis, and in ulcerous endocarditis. No untoward by-effects have ever been observed. In isolated cases a considerable perspiration was noticeable during the decline of the fever, and at times cyanosis was observed. Kryofin was also found to be an excellent antineuralgic, its use in several cases of recent sciatica being followed by a rapid alleviation of the pain. It was equally effective in a case of polyneuritis alcoholica in which sodium salicylate, phenacetin, antipyrine, and exalgin were of no avail. F.

Guaiacol Phosphite and Phosphatol

Ballard (*Pharm. Jour.*, No. 1401, p. 368) prepares this as follows: 124 gme. of crystallized guaiacol are treated with 50 gme. of caustic soda dissolved in 90 per cent. alcohol; to the clear solution phosphorus trichloride is run in through a tapped funnel until the solution is no longer alkaline to phenolphtalein; the precipitated salts are filtered out, the alcohol is distilled off, and the residue extracted with absolute alcohol, which only dissolves the guaiacol phosphite. The solution is then evaporated on the water-bath and the salt crystallized out, purified by recrystallization from absolute alcohol, and finally dried over sulphuric acid. The crystals have the formula, $P\cdot(C_6H_4:OCH_3\cdot O)$, and therefore represent the neutral guaiacol phosphite. It forms a white, crystalline powder, melting at 77° :5 C.

Creosote treated in a similar manner gives a thick, reddish-yellow liquid, which consists of the phosphorous esters of the various phenols present in the creosote; to this the author proposes to give the name "phosphatol." It is described as a dark, syrupy liquid, giving an intense red with ferric chloride. F.

Vanillin-Paraphenetidin, a Hypnotic and Antineuralgic

A new condensation-product is formed by heating vanillin with paraphenetidin at a temperature of about 140° C. and pouring the product of the reaction into diluted hydrochloric acid, whereby vanillin-paraphenetidin is precipitated (*Pharm. Z't'g*, XLII, p. 248) as a yellow powder.

Vanillin-paraphenetidin crystallizes from hot water with 3 molecules of water, and melts at 97° C. It is but slightly poisonous, and differs from the analogous bodies so far known, the compounds formed between paraphenetidin and other aldehydes, in being soluble in water, and possessing also hypnotic as well as antineuralgic properties. F.

Bromalbumin

Various halogen compounds of albumin have been introduced very recently, and almost simultaneously, by Blum, Hunrath, and Paulman, the bromine and iodine compounds described by Blum being known as "bromosinum" and "iodosinum," respectively. The statement is now made (*Pharm. Z't'g*, XLII, p. 283) by Dr. O. Loew, of Tokio, Japan, that he had prepared a compound of bromine and albumin, named "bromalbumin," as far back as 1885, and concerning which he states the following: After removing the loosely combined bromine, the preparation still contains 16.16 per cent. of bromine in stable combination, and after dissolving in ammonia and precipitating, still contains 13.1 per cent. This product no longer yields potassium sulphide on boiling with an alkali; decomposition with mineral acids yields no tyrosin, and boiling with Millon's reagent no red coloration; it does give the biuret-reaction, however. These reactions are precisely those that albumin shows after slight oxidation with potassium permanganate. The writer also adds that by reducing the amount of bromine to half that of the weight of albumin, and warming for several days at a temperature of 50-60° C., the same bromalbumin is had upon removing the loosely combined bromine by means of sulphurous acid. F.

Laurenol, an Antiseptic

Laurenol is a new antiseptic which has been pronounced satisfactory by the Municipal Laboratory, the Laboratory of Micrography of the City of Paris, and by that of M. Latteux, formerly of the Laboratory of Histology, of the Faculty (*N. Y. Med. Jour.*, No. 962, p. 646). The number of colonies in a cubic centimeter of water combined with purified blood was about eighty thousand, but, after a cubic centimeter of laurenol was added, the colonies completely disappeared. In filtered sewer-water, after the addition of a cubic centimeter of the antiseptic, no colonies were found, while a previous examination had revealed about seven hundred thousand.

M. Latteux has employed it in dressings and found that a 3-per-cent. solution rapidly modified purulent secretions and greatly hastened cicatrization. In various cases of chronic and acute metritis it was used with excellent results; the odor of the secretions disappeared after the third injection. Nothing is stated concerning the physical or chemical properties of the preparation. F.

Lupus Treated with Tuberculin

Dr. R. Campana (*The Practitioner*, Vol. LVIII, No. 3, 1897) summarizes his views on the above subject as follows:

1. Tuberculin, gradually applied, is never injurious.
2. It helps in bringing about resolution of inflammatory lupic and tuberculous infiltrations.
3. The organism, after long use of this remedy in small doses, becomes habituated to its action and is thereby made more resistant to new tuberculous invasions, which are observed much more rarely.
4. To obtain the curative effects of tuberculin on tuberculous infiltrations, it is necessary to get rid of septic manifestations before applying the remedy.
5. On very extensive changes with advanced caseation tuberculin is ineffective, just as mercury is ineffective on a caseated gumma which cannot be eliminated by ulceration.
6. To prevent local recurrences the action of tuberculin should be supplemented by thermo-cauterization of nodules as soon as they appear.
7. In external tuberculous lesions which are very extensive and deep, or are the seat of caseous degeneration, surgical treatment should be associated with the use of tuberculin, which in its own action is superior to that of iodine, arsenic, etc.

REVIEWS

System of Surgery.—By Frederic S. Dennis, M.D. and John S. Billings, M.D., LL.D., D.C.L. Volume IV. New York and Philadelphia: Lea Brothers & Co., pp. 970.

The first article by the author with the assistance of E. K. Dunham, M.D., discusses the comprehensive subject of tumors. These authors, like most of the other clinicians and many of the pathologists of the present time, dismiss the germ production of malignant tumors as hardly worthy of notice. They consider that inflammatory conditions, often resulting from trauma are the essential factors in the early production of disease. They do not explain how it is, however, that these diseases often occur in families occupying the same habitation with cancer patients, yet whose family history gives no hint of the existence of a malignant tendency.

Much space is devoted to a discussion of Coley's method of treating inoperable sarcoma and the statement is made "the almost miraculous results which have been obtained in some cases of inoperable sarcoma justify the means, and offer . . . sufficient encouragement to investigate still further their unique method."

A most satisfactory discussion on Hernia by Wm. T. Bull, M.D. and Wm. B. Coley, M.D., follows. Maurice H. Richardson, M.D., Farrar Cobb, M.D., consider the question of the surgery of the alimentary canal from the pharynx to the ileo-cecal valve, while Lewis S. Pilcher, M.D., completes the alimentary canal, treating that portion from the ileo-cecal valve to the anus. Robert Abbe, M.D., deals with the surgery of the liver and biliary passages. Wm. M. Polk, M.D., has an interesting review of the surgical disorders and diseases of the uterus. Minor gynecological surgery is well considered by Henry C. Coe, M. D., while symphysiotomy has been considered of sufficient importance to be placed in a chapter by itself, Wm. T. Lusk, M.D. being the author. The surgery of the thyroid gland is treated in the well-known style of Robt. T. Weir, M.D. and he was assisted by E. M. Foote, M.D. Rudolph Matas, M.D. gives some interesting data in regard to the surgical peculiarities of the negro, and Frederic S. Dennis considers the subject of the diseases of the female breast, and finally W. W. Keen, M.D., has the important chapter on the use of the Röntgen or X rays in surgery. It is without doubt the best system of surgery in the English language to-day.

A Treatise on Appendicitis.—By John B. Deaver, M.D. Philadelphia: P. Blackiston & Co. 1896. Pp. XV. 168.

The author in this work follows very closely along the line of the history of the disease as it is related by Hawkins. In some respects it is more complete than the earlier work, for Hancock and Parker are quoted, and the American surgeons who have done so much to bring the question of appendicitis out of the quagmire of inaccurate clinical observation and lack of pathological knowledge, have been accorded a more adequate meed of praise. He considers that the twists and curves usually found in the organ, are due to the meso-appendix appearing to be too short, thus differing from the explanation given by Huntington. The increased circulation supplied through the appendiculo-ovarian ligament is given as the reason why the female is less liable to the disease than the male, and he considers that coproliths are a consequence rather than a cause of the disease. The pathology is practically that of Fowler, with a small admixture of facts culled from other authors. Bacteriological considerations are given little space; the coli communis being considered the most frequent germ to produce the affection. Pain, tenderness and rigidity are spoken of as the three cardinal symptoms. In making a differential diagnosis from typhoid fever, nothing is said of the advisability of examining the feces for bacilli.

Differential Diagnosis and Treatment of Coma.—A chart embracing points in lectures of and revised by Prof. A. P. Grinnell, M.D., Medical Department, University of Vermont. Arranged by George A. Huntley, late superintendent of the Ch'eng-Ru-hsien Dispensary, China.

This chart is arranged in a very simple, concise manner, and the differential diagnosis of the various conditions in which coma occurs, is given in a few words, but still completely. In it are considered: 1, History; 2, Onset; 3, Inspection, etc., face, body, trauma, hemorrhage, paralysis, pupils, respiration; 4, Temperature; 5, Pulse; 6, Odor; 7, Urine, chemical, quantity; 8, Enteric and Gastric; 9, Convulsions; 10, Condition; 11, Treatment.

The chart will be found of special value for medical students.

They may be had from the compiler for sixteen cents. Address 135 Loomis Street, Burlington, Vermont.

CORRESPONDENCE

Maternal Impressions.

To the Editor of the A. M.-S. BULLETIN:

Two months ago I was called to attend in confinement a woman in her second pregnancy. The first child is living, aged 7, and apparently quite healthy. The woman was delivered in this her second confinement about an hour after I reached her, of an eight months' child which at birth required resuscitation. The peculiar feature of the case was that this male child had what apparently resembled blisters on its wrists, fingers and both feet. The cuticle was denuded to the extent that on slight friction the blisters (or ulcers) would bleed. The child was very fretful, anemic, and being weak and puny, died the fourth day of umbilical hemorrhage. There was no specific disease inherited from the parents. The mother and grandmother told a story of passing the spot where some Portuguese men were blistering hogs. They said the men had the live hogs penned up, and piling straw around the animals, set fire to it, and thus burned the hair and bristles off the swine. The swine were then stuck and the blood gathered for making blood-puddings.

A religious feast or festival was the cause of this unusual barbarity (?).

The blistering of these hogs, in their writhes of agony and squeals from pain, so impressed the pregnant mother that she marked her child in utero. This is their theory, and I am sure it seems plausible and possible under such unusual circumstances.

J. L. GARDNER, M. D.

New London, Conn.

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EDITOR'S NOTES

The stinginess of legislatures in supplying money toward the protection of the public health has long been known to medical men, but it is not often that they get it in so concise a form as that in which it is put in the following table given by the State Board of Health of Pennsylvania in a late report:

	Appropriation.	Population.	Cost er C.
Massachusetts	$57,000	2,238,943	21.67 m
Alabama	9,000	1,513,017	5.88 m
New York	30,000	5,987,853	5.00 m
Illinois	9,000	3,826,351	2.33 m
Minnesota	9,000	1,301,826	6.87 m
Michigan	6,000	2,093,889	2.87 m
Pennsylvania	6,000	5,258,014	1.15 m
Wisconsin	5,200	1,636,880	3.06 m
New Hampshire ...	3.500	376,530	9.33 m
Rhode Island	3,000	349,506	8.67 m

Massachusetts deserves great praise for its liberality in this direction. It leads every other State in this enlightened policy.

Medical instruction of the laity in the lay press is now being advocated by a number of correspondents in the *Journal of the American Medical Association*. The BULLETIN heartily sympathizes with these writers and believes that no greater work for the good of the race could be accomplished than the establishment of a society of medical men, each member of which would pledge himself to write and offer for publication a popular article every year. Such articles could be read in their meetings, discussed and amended, after which the society's endorsement should accompany them. No name should be signed and only medical men should know who the authors are. The people in this way could be taught why medical men uphold a code of medical ethics, how to tell quacks from educated physicians, what their duties are toward medical men, lessons in first aid to the injured, and the dangers that follow taking everybody's advice while the physician is in attendance. Who will start such a society? Once started it will be of great advantage as a means of securing just medical legislation.

Women in all ages and at all times have taken a more active part in hindering the world's progress than men. They have always acted as a brake to progress. They always cling to the past and all that it stands for, with great tenacity. Through the whole past history of the world we find them on the wrong side of every question. Of course there are a few honorable exceptions to this rule. Occasionally a woman can be found who takes a leading place in working for the advancement of the race, but such are the exception and not the rule. Left to themselves, and there are not very many of them that can be relied upon to go right on any great question. Their instinctive tendencies are static or retrogressive. It is, then, not surprising to learn that the moving and directing power of antivivisection is found in women. The Illinois Antivivisection Society on June 4 held its annual meeting at Aurora, and elected women to fill every office in the same, from president down to auditor of accounts.

The heroism of medical men has often been tested, so that it has come to be considered a matter of course for them to exhibit this characteristic. *Nature*, in its issue of May 20, gives a new and interesting illustration of this kind. Dr. Foster, Her Majesty's Inspector of Mines, risked his life at the Snaefell lead-mine, Isle of Man, in trying to ascertain whether it was possible to recover the body of a miner that had been unable to escape from the mine after an explosion. The doctor and others ventured down the shaft as far as their tests indicated safety, and attempted, with a grappling hook, to get hold of the body. The movement of the air brought the poisonous gas up to where they were. The gas was supposed to be carbon monoxide, and it exerted its power markedly on that one of the party that was first in contact with it. He was at once put into the box to be raised to the surface. On the way up the box got caught, and they were all left at the mercy of the gas. Dr. Foster at once began taking notes of his sensations for the benefit of science, and kept it up till he was raised to the surface, although he believed himself dying. He refused to enter the box till every other member of his party had been saved. Such courage, coolness and daring attest the sterling worth of the man. For the benefit of others he worked even in the face of death.

A crusade against unnecessary noises has been begun by the newspapers of several large cities in this country. It is to be hoped that it will be kept up until something substantial comes of it. To merely protest will amount to nothing. Everybody is aware of the fact that the noise business is overdone. Even the noise-makers themselves know it, and often wish it could be stopped. What one deems a noisy nuisance another looks upon as a necessity. Very few dislike the noises that they make themselves. It is other people's noises that they take exceptions to. Herein lies one difficulty in the way of concerted action. Even the fiends who make night hideous are usually willing to plead necessity as the cause of their conduct. Noises that are wholly superfluous are not very numerous, but when found should be suppressed promptly and in no uncertain manner. The bacchanalian rout that goes home whistling, singing or shouting should be lodged promptly in jail, particularly if he indulges in this form of amusement when most people are in bed. The neighbor who tacks carpets, thumps the piano, hammers nails, and does other such noisy acts after midnight should be forced to stop, no matter what his excuse. Fourth of July firecrackers should not be exploded all night long at any time, and certainly should not be tolerated for a month before and a month after Independence Day.

The Woman's Journal not long ago contained a criticism of the New York Woman's Medical College, in which it was condemned for vivisecting. Dr. Emily Blackwell answered the critic in a way that would make women antivivisectors ashamed of themselves if they were reasoning creatures. She very effectively disposed of the charge in the following words:

"By a city ordinance, all stray dogs and cats are impounded, and if not claimed are drowned. In the course of the college year perhaps a dozen of these condemned animals are purchased one at a time, taken to the college, and, without violence or terror, quietly etherized, just as a patient would be for an operation, and before the anesthesia is carried to the fatal degree the professor, by a surgical operation, illustrates some point of physiological function or structure; then the animal is allowed to die by profound etherization. There is no suffering; nothing more distressing nor hardening about the matter than there is in every surgical operation. For the animal itself, it substitutes a quiet and merciful death for the terror and suffering of the public pound and drowning."

The trouble with these people is that they do not, and, as a rule, cannot, reason. Sound logic and facts have no more effect upon them than water has on a duck's back. Sentiment, and sentiment alone, ever moves them. A stirring novel about the imaginary suffering of somebody or something would move them to tears in a few seconds.

Appendicitis With Operation in a Child of Four Years

Dr. F. Villard contributes to *Jour. de Cliniq. et de Therap. Inf.* (No. 16, p. 309, 1897) the following case which occurred near Bordeaux, March, 1897:

A fine child of 4 years, a little pale, habitually constipated, living almost exclusively on milk, became ill on Wednesday with pain in the right iliac region, slight fever, and had a restless night, with pains increasing through the next day and night. When first seen on Friday by Dr. Villard, the face was drawn, skin hot, temperature 100° to 102° F. There was impaction in right iliac fossa, where pressure was painful. There was vomiting. He continued ice-applications, with improvement that night. Saturday night pains increased. Sunday morning he operated, against the advice to parents, by letter, of a Paris member of the *Faculté* who had not seen the case.

Immediately beneath the musculo-aponeurotic layer he came upon a large pus cavity containing fecal matter. The gangrenous perforated appendix, adherent to the posterior surface of the cecum, was removed and found to contain a small hard piece of fecal matter. He notes the rapid progress of some cases of appendicitis, but is especially alive to the importance of the question, "In what cases and at what moment shall we operate?" He says of this case: "I could and should have operated the second or third day," and concludes, "I see that the question of operative interference in appendicitis is becoming more and more classical."

PUBLISHERS' DEPARTMENT

OPHTHALMIA NEONATORUM

Dr. E. F. West, of San Francisco, says, "I have used Palpebrine with excellent results in ophthalmia neonatorum of severe types. I cleansed the eyes with a twenty-five per cent. solution every half-hour. A few drops of full strength were applied four times a day.

THE MULFORD COMPANY'S EXHIBIT

At the recent meeting of the American Medical Association, held in Philadelphia, the H. K. Mulford Company made a very fine exhibit of pharmaceutical products and of their concentrated diphtheria antitoxic serum and special syringes for its injection. A large number of physicians attending this meeting availed themselves of the opportunity of inspecting the company's bacteriological laboratory.

ERB'S ELIXIRS

Elixir Salol Erb and Elixir Salol-Phenacetin Erb are palatable and permanent liquid preparations of the medicaments contained. Owing to their insolubility in the ordinary menstrua, salol and phenacetin are generally administered in the form of powder, pill or tablet. These forms have various drawbacks. The elixirs are adapted to the various uses of these valuable remedies.

Elixir Salol and Phenacetin Erb contains 10 grains of salol and 10 grains of phenacetin in each ounce, or 2½ grains to the dram or teaspoonful. Elixir Salol Erb, contains 20 grains of salol in each ounce, or 2½ grains to the dram or teaspoonful. They can be administered in water, milk, wine, or spirtits.

Charles S. Erb, manufacturing pharmacist, 121 Amsterdam Avenue, New York City, solicits correspondence concerning his elixirs.

ANTITOXINS

"Antitoxins," is the title of a booklet published by the G. F. Harvey Company, manufacturing chemists, Saratoga Springs, N. Y. Its pages are devoted to a consideration of the products of the Biological Department of the New York Pasteur Institute—principally Gibier's double antitoxin for malignant diphtheria, streptococcus antitoxin, and the antitoxins of tuberculosis and of tetanus.

Most of the space is given to diphtheria antitoxin, and properly so. Every subject of interest concerning this remedy is covered—history, theory, production, antitoxic unit, cases, mortality statistics, etc. Similar, but less exhaustive, treatment is accorded to the other antitoxic products of the Pasteur Institute. The reading matter is interestingly presented and properly classified, so that even a cursory glance will give a good survey of the whole field of antitoxic therapy. About a dozen excellent half-tone prints illustrate the pamphlet.

ANTIKAMNIA IN SURGERY

At the meeting of the American Medical Association, held at Philadelphia, Pa., Dr. John H. McIntyre reported "Ten Selected Cases of Laparotomy, with Remarks." This paper, published in the *Jour. of the Am. Med. Assn.* we quote as follows: "I use but little opium or morphia, for the reason that these drugs, by locking up the secretions, limit the power of elimination, and therefore favor septicemia. For over a year past, in cases of laparotomy where pain and rise of temperature were present, I have used antikamnia in ten-grain doses, with the happiest effects."

RESINOL

Dr. A. L. Scott, of Birmingham, Ala., writes to the Resinol Chemical Company, of Baltimore, Md., as follows: "I wish to say a few words of highly deserved praise in reference to your wonderful preparation, Unguentum Resinol. I have had the most flattering success with it in my practice in the treatment of pruritus ani, itching piles and also in allaying the intense itching and burning of eczema. I have found it superior to any preparation of its kind that I have ever used, and I think it stands without a peer as an antipruritic and sedative."

PO-MELIA

The attention of physicians is called to the exceptional value of Po-Melia as a food for infants and invalids. It is prepared from nutritive extracts of malted barley and choice wheat, combined with lactose. Po-Melia is highly concentrated and partially predigested, being manufactured by an improved process, thereby retaining all the nutritive constituents and rejecting those that are irritating or otherwise objectionable. Po-Melia is said to contain more of nitrates and phosphates (muscle and bone-giving elements) than any other food. It is also rich in carbonates (flesh and fat-producing elements). It is in powdered form, and contains no glucose, cane sugar, or other deleterious matter. The malt is prepared so as to get the full medicinal value of diastase, maltose, dextrine, extractive matter, and phosphatic material. By the process used the diastase is retained in an unchanged and active condition. Po-Melia is prepared by The Turners, of Philadelphia.

The doctors of Ansonia, Conn., have a blacklist for people who refuse to pay their bills. The New Haven *Leader* says that one of their blank forms for notifying delinquent patients was lately picked up in the street.

Denver doctors have raised $10,000 with which to entertain the A. M. A. in 1898. They propose to take the members through the most interesting parts of the State on an excursion so as to convince them that no other part of the earth is as good for the sick to be sent to as theirs.

A case of leprosy that had been under treatment for some time as a simple form of skin-eruption was lately discovered at the Johns Hopkins Hospital. Dr. Osler took advantage of the case by writing a treatise on leprosy for the medical men of Baltimore and exhibiting the patient to them.

The British Government has been much exercised of late over the wickedness of "Tommy Atkins" and of the loss of his services through his contracting specific disease while on duty in India. Every practical plan proposed meets opposition particularly from the religious portion of the community on the grounds that they want no "State Regulation of Vice." They think that he should be controlled solely by "moral influences."

NEWS

Of the 1,400,000,000 persons in the world, it is estimated that 1,000,000 of them are sightless.

President McKinley has appointed a Superintendent of Charities for the District of Columbia.

One of Rutland's fake graduates lately came to grief in Milwaukee, Wis., by his inability to fill in a death certificate for a patient.

The St. Louis Medical Society is making a raid upon its members that advertise. The members of the staffs of several hospitals are the guilty ones.

The College of Physicians and Surgeons, of Illinois, has thrown its doors open to women matriculates. The medical school is now part of the University of Illinois.

A Denver doctor who undertook to cure a case of tuberculosis by burning the tubercular tissue with the electric cautery is now charged with murder as the result of the operation.

Visiting physicians of the A. M. A. who remained in Philadelphia after the jubilee meeting had the opportunity of seeing several interesting operations at the surgical clinic of Jefferson Medical College.

The scheme for consolidating the Bellevue Hospital Medical College with the Medical College of the New York University has been abandoned. The blame is charged upon the university because it tried to control in everything.

A wet-nurse employed by St. Ann's Orphan Asylum, of Missouri, has brought suit against the institution for $100,000 damages, her charge being that she was given a syphilitic child to nurse, whereby she contracted the disease.

The Columbian line of steamers on June 10th, lost a second-cabin passenger with yellow fever just after reaching quarantine in New York. The rest of the second-class passengers were detained and disinfected at Hoffman's Island.

The health inspectors of the Boston public schools use flat pieces of wood to depress the tongue in looking at the throats of the children. These pieces of wood are never used more than once and they are always burned soon after using.

The St. Louis Medical Society has been lately having some lively times, the result of the adoption of a report of a committee appointed for that purpose, scoring the dispensary practice of a number of medical and religious institutions of that city.

The Chicago *Times* says that Chicago is the medical center of America, graduates more medical students than any other city in the continent, contains 3,239 registered doctors, has 24 medical societies and clubs, and publishes 23 medical journals.

Secretary of Agriculture Wilson has sent a communication to the Senate Committee on Agriculture and Forestry, making a vigorous appeal for the defeat of the anti-vivisection measure now before the authorities of the District of Columbia.

According to the Philadelphia *Inquirer*, Dr. Samuel A. Trath, one of the Board of Health vaccine physicians was arraigned before a Magistrate for vaccinating a child without the father's consent. The Anti-Vaccination League is trying to have the doctor convicted.

Prosecuting Attorney Frazer, of Detroit, has lately given it as his opinion that a coroner in the State of Michigan has the right to hold a postmortem in any case he deems necessary. His will is supreme and neither the Board of Health, parents nor guardians of the deceased can hinder him.

The physicians of London, Eng., have formed a Medical League for the purpose of probing dispensary abuse. They propose to run down every case of unworthy free treatment. It is reported that the Royal College has been petitioned to investigate the whole system of medical relief in England.

The New York *Journal*, of Sunday, June 6, contained a silly and sensational story to the effect that microbes were for sale in New York City for the purpose of being used to commit murder. Murderers are not going to resort to so uncertain a method when there are so many more certain ones.

The Denver *Times* is crowing over the politic move of Dr. Graham in teaching the effete East how to raise money for the Rush monument. It says: "The thanks of Colorado people are due to Dr. Graham and to the Colorado delegates for so quickly seizing upon an opportunity of bringing Colorado to the front."

Dr. W. E. Shaw, of Cincinnati, Ohio, has followed Dr. Judkins in resigning from the Board of Directors of the Humane Society of that city. In his letter of resignation he says: "The policy and sentiment of the society appear to me at a very vital point to cross the path of scientific progress and the truest and broadest humanity."

The Metropolitan Asylums Board of London, through its medical superintendent reports that the use of antitoxin in diphtheria during the year 1896 confirms and emphasizes the favorable conclusions reached during 1895. The mortality in post-scarlatinal cases from 1890 to 1894 was 50 per cent. The mortality in the same class of cases in 1896 was only 5 per cent.

The New Orleans *Item* says that the Louisiana State Board of Health charges the Mobile Board of Health with purposely violating the quarantine laws and endangering the nation with yellow fever. The Louisiana Board says "We have heard from what we believe to be a reliable source, that in some cases the quarantine inspector of the Mobile Board of Health has been acting as solicitor and passenger agent for the Mobile steamship line."

Messrs. Andrews & Davies, attorneys for the Atlanta Society of Medicine, lately sent out a letter to a large number of Atlanta physicians that read as follows: "Complaint is made against you by the Atlanta Society of Medicine that you have not complied with the law and regulations in regard to practitioners of medicine in the State of Georgia. The society has employed us as counsel to investigate irregularities in this respect and to take proper steps in enforcing the law upon the subject."

The Chicago *News* in commenting on the proposed Osteopathic law lately before the State legislature of Illinois says:

"The measure now before the house provides that no practitioner of osteopathy shall be required to consult the State Board of Health nor any other public leaky body nor to divulge the particulars of his practice. He shall not be accountable to any one except his fellow-practitioners and to them only after dark. If anything is the matter with his own backbone he may go away without leave and stay until he gets better."

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EDITORIAL

THE MIRACLE OF HEALTH

IT is related of a well-known American public speaker that on a certain occasion, when he was lecturing before a sympathetic audience on some of the mistakes of creation, a listener asked him how he could improve on present arrangements when he promptly replied that he would make health catching instead of disease. To superficial minds this reply seemed unanswerable, and it has again and again been quoted as a very brilliant illustration of the keen insight of its author. Facts, however, are stubborn things, and they go to show that a world built on such a plan as this answer suggested to his hearers would be a very bad one indeed. In the deepest and best sense it is health that is catching, and not disease. The incessant adjustments of living matter from birth to death constitute one constant round of health-catching. An occasional failure in this continuous series allows pathogenic bacteria or other micro-organisms to triumph for a time, but even here it is health that triumphs and not disease. Because the micro-organisms have vigorous health and the bodily cells have not as great vigor, the victory of the former is assured. Viewing the matter superficially, if health came to us just as contagious diseases now do, it would have to come to diseased bodies and not healthy ones, so that the normal condition of being would have to be that of disease. A healthy body does not need to and cannot catch health in any other way than it is incessantly doing it. That all living bodies, whether in health or disease, are incessantly catching after health is one of the most certain things of life. We are continuously running the gauntlet of death. So true is this that the fact that we are ever healthy is one of the most stupendous miracles of the universe. From undifferentiated protoplasm up to man, every step has been one of wonderful adaptation in which life has conquered death and health disease. So true is this that it is impossible for any one to define life itself in terms acceptable to science except as neither more nor less than simply adjustment. Such is the definition given by Herbert Spencer, and such the one accepted among biologists generally. The only physical evidence we have or can have of life is found in its adaptations. The place in the ascending scale of life which every living thing occupies is fixed, solely, by its power of adjustment. An animal high in the scale of being is one capable of making highly complex and multitudinous changes, enabling it to adapt itself to the corresponding changes in its environment. An animal low in the same scale is one incapable of making such changes. Matter that is incapable of making any such adjustments is pronounced dead. Every newly acquired adjustment gained by life in order to raise an animal higher in the scale of being is an acquisition from the domain of disease and death. The one startling feature of the whole arrangement is that all such acquisitions are a triumph of the relatively instable over the relatively much more stable. Every step life gains over death and disease is the production of a higher condition of instability. From molecule through cell to mass it is always of the nature of balancing on a smaller and smaller base. Like an acrobat doing more and more wonderful feats of skill, the power that leads to higher life travels over a route of increasing perplexity and danger. The child, when first acquiring the upright position in learning to walk, and the man when learning to balance himself on a bicycle, are each but types of the whole course of ascending life. The slightest deviation from true physiological conditions carries us into pathological ones. We are incessantly surrounded by forces that seek to destroy us. It is not generally known that but for the selective skill and care of those wonderfully skilled and accurate chemists, the cells, every article of food we eat would be as dangerous to us as dynamite. When running down to carbon dioxid, urea, etc., and giving us the strength with which to do our work, every step in the descent has side-steps, ordinarily just as easily taken, that lead to the production of deadly poisons. But for the fact that in the deeper and truer sense health is catching, instead of disease, these poisons would be the products from our food where now we have innocuous and supporting substances formed. There is not a step in digestion without its dangerous pitfall, and the wonder is that we escape so continuously. Even the normal, healthy products of one part of the body would kill if they should be suddenly and unchanged carried into another and not very remote part. As an example of this, we have peptone. Life-giving as this is when it goes through its normal channel, it becomes a poison when injected directly into the blood. Abrin, the most deadly poison known, can, it is said, be swallowed with impunity in doses that would immediately prove fatal if injected directly into the blood. In the stomach it is converted into peptone.

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TOXICITY DUE TO RELATION.

NO substance is, under all conditions, destructive to every form of life. Under altered conditions, either of the poison or of the organism, every kind of toxic substance ceases to be destructive. Corrosive alkalies and acids are probably among those that are capable of acting deleteriously on as large a number of organisms as any other toxic bodies, yet we find that sometimes they become a necessity of existence. This fact we see illustrated in the production of hydrochloric acid in the stomach during digestion, and in the production of alkali for the saponification of fat in the intestines. Oxygen is undeniably an absolute necessity of existence, yet the experiments of M. Paul Bert and others have established the fact that it must be ranked among poisons far more deadly than strychnine when compared with it weight for weight and under pressure. Its function in the body is similar to its function in the fire. It burns up the combustible matter with which it comes in contact, and produces, principally, carbon dioxid and water. Within us it is held in bonds that keep it from vigorous activity. Release it ever so little, or force it into greater activity by pressure, and it will get in its deadly work immediately. Nature has wisely provided against the danger of excess by diluting it with nitrogen and argon. Without it we would surely die, and with an excess of it we would be equally certain to perish. What is true of oxygen is likewise true, though in lesser degree, of many other substances. The old proverb, that "what is one man's meat is another's poison," had its origin in a dim perception of the truth that all toxicity is due to relations. The existence of idiosyncrasies toward certain articles of food or medicine point in the same direction. Lessing, in *Nathan der Weise*, uses the expression, "It is medicine, not poison, I offer you." Did he but know it, medicine and poison are nearly interchangeable terms. Indeed, we might even go farther, and say that food and poison are nearly interchangeable terms, for thus closely does death tread upon the heels of life. It may be merely a matter of dose, or it might depend upon some trifling change of function. On the side of the substance itself it may be only a very slight chemical change. Toxalbumin is close of kin to albumin, and oxalic acid is produced directly from sugar or starch. Here we see that it is the shortest kind of a step from our daily bread to death. As, according to the periodic law of Mendeleeff, the properties of the elements are functions of their atomic weights, it is highly probable that the properties of organic substances are functions of their molecular weights controlled by their structures. Whether, therefore, such a body shall be noxious or innoxious will depend not on the material out of which it is built, but upon the groupings of the atoms and the corresponding electrolytic conductivity. When similarly grouped the properties are similar. Among the alcohols the tertiary are quite toxic, the secondary less so, and the primary least. The carboxyl and sulphonic radicals play an important part in controlling toxic properties. In organic acids those in which the carboxyl bears the largest relative proportion to the weight of the molecule are the most powerful, but in the antipyretics derived from para-amidophenol the presence of carboxyl lessens the toxic property. In a very large number of the most poisonous organic substances nitrogen plays an important part. Its position in the chinolin and pyridin rings of the alkaloids has a controlling effect. Whether an organic body shall be a food, a medicine or a poison in the system depends upon the ability of the chemical forces of the body to dispose of it beneficially. In small enough quantities it is pretty certain that most of them can be consumed and energy derived from them. Thus consumed they are foods. In larger amount they produce distinct physiological effects. Under such conditions they are medicines. In still larger amounts they have a profound effect upon the system and are then poisons. From absolute inertness through food to poison there is no line of demarcation. All depends upon the amount the body can dispose of. The same chemical classes are found in each, linked by all degrees of toxicity. From aconitine to quinine there are alkaloids with varying degrees of power, and from quinine to caffeine or theine, as found in our coffee and tea, there are still others to fill up the gap. Then, again, if we turn to the glucosides there will be found a chain leading from digitalin among the poisons to asparagin among the foods.

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IMMUNITY TO POISONS

IN Martial's "Epigrams," we read that "Mithridates, by frequently drinking poisons, rendered it impossible for any poison to hurt him." That the body has the power to adjust itself to the effect of poisons has been known for ages and is known to savages to-day. It is said that snake-charmers gain immunity from the venom of snakes by gradually allowing themselves to be inoculated with the virus. Their ability to handle the most dangerous species and to permit themselves to be stung by them is explained in this way. We are all familiar with the tolerance that the habit of chewing and smoking tobacco establishes to nicotine. The boy who tries his first chew of plug tobacco and the one who smokes his first cigar usually have to pay dearly for the honor. After several attempts they gain immunity from the sickness at first produced, and in time they derive pleasure instead of discomfort from the practice. Inveterate smokers and chewers become so accustomed to the "weed" that they dispose of enormous quantities daily, and some of them feel no discomfort from swallowing large amounts of their tobacco-soaked saliva. In administering opium and morphine to patients for a protracted period, we find that they must have larger and larger quantities the longer they use them, or they will not produce the desired results. After the habit is fully established such patients are able to tolerate doses so large that a small fraction of the amount would certainly have been fatal had they begun with it. Infants that have had opium administered to them by nurses for long periods of time have been known to take as much as twenty drops of laudanum at a dose without serious results, when five drops would prove fatal to other infants of the same age. What is true of morphine has been proven equally true of strychnine and other deadly alkaloids. Nor is this ability to acquire tolerance confined to alkaloids or alkaloidal drugs. We see the same thing in a habitual use of alcohol, as whiskey, brandy, wine, or beer. The old toper can "put away" more "grog" at a single sitting than would kill any ordinary man. While a small amount will make a temperate man or a total abstainer drunk, the same quantity will have no perceptible effect on a hard drinker. Of late years a new form of tippling has arisen, and instead of alcoholic beverages ether is consumed. It is found that this also establishes tolerance by continued use. With mineral substances the degree to which tolerance can be carried is very narrow as compared with vegetable. The body does not seem to be able to adjust itself to the former with anything like the same degree of facility that it can to the latter. Every physician has heard of the Styrian and Hungarian arsenic-eaters and their immunity from injury, after taking large doses of arsenic. Toxicologists believe that these reports are exaggerated, because no such marked tolerance is ever produced in this country. Besides the acquired ability to resist poisons that has been brought about by habit, there is a hereditary tolerance.

Some plants poisonous to man are quite innoxious to certain kinds of animals, while on the other hand some that have no deleterious effect on man are injurious to animals. Many kinds of insects are quite at home among poisonous drugs, and can subsist for an indefinite time upon them.

The flinty seeds of nux vomica are pierced and eaten by an acarus native to the home of that tree. There are a number of species of moths that feed on such poisonous plants as oleanders, euphorbias, tobacco, staves-acre, aconite, belladona, etc. The hereditary tolerance of sea-fish for sodium chloride, and the absence of that tolerance among fresh-water fish, is another illustration of the same. With the advent of bacteriological pathology and our new therapeutics, these facts of poison immunity have taken on a high degree of importance, as they give us the means of understanding some of the most recent and most important advances in medical science.

AMONG THE EDITORS

WHY THE BIRTH-RATE IS FALLING

To-day the civilized world is confronted by a rapid decrease in the birth-rate, and in France the matter has reached sufficient importance to receive legislative consideration. In 1894 the birth-rate of France was 22 in every 1000 inhabitants, *the lowest rate of any country in the world!* To mitigate this evil French legislators are planning to exempt families containing three or more children from taxation, and impose additional taxes on those who have less. What effect this will have on the decrease of annual births remains to be seen.

In the United States, while our present birth-rate is somewhat larger than that of France, Dr. Billings' statistics showing it to be 26.69 to every 1000 in 1890, we yet have much cause for apprehension for our births each year are decreasing much faster than those of France. In 1894 statistics showed that the birth-rate of France had decreased 2.7 per thousand in the previous decade, while Dr. Billings' statistics in 1890 showed that the United States birth-rate had decreased 4.27 per thousand since 1880! At the same ratio of decrease our birth-rate at present must be about 23.69, *less than two per thousand more than the rate which has startled France! !*

The fact that since 1880 our birth-rate has dropped from 30.95 to 23.69 in every 1000 people ought to give rise to some thought as to the probable cause. Many factors have undoubtedly united in causing this terrible falling off of annual births, but only two are of immediate interest to medical men. The first and most potent of these causes is unquestionably abortion, criminal or otherwise. A decade ago the estimated proportion of abortions was about one to every twelve or fourteen pregnancies. To-day the best of authorities tell us that one out of every five pregnancies terminates in abortion and between eighty and ninety per cent. of childbearing women abort once or more during their lives! ! The rapid increase in the frequency of abortions in a period of about ten years, and a notable decrease of the birth-rate during the same period is more than a coincidence.

Another fact viewed from the standpoint of a decreasing birth-rate in France, which cannot fail to interest the medical profession, is that over five hundred thousand French women have had their ovaries removed since 1883! How much effect ovariotomy has had on the birth-rate no one knows, but the removal of five hundred thousand women from a nation by pestilence or famine in a space of a little over ten years would scarcely tend to increase the birth-rate.

Undeniably these questions are important, but what can be done? Hard as it is to say, in regard to abortion, little or nothing. It is sometimes so insidious, so secret and private in its character that even the law is powerless.—*Vermont Medical Monthly.*

DENVER GETS THE AMERICAN MEDICAL ASSOCIATION IN 1898

The individual intelligence, energy and enterprise of Colorado's delegation to the American Medical Association, so ably and persistently exploited through the scholarly attainments and aggressive generalship of Dr. J. W. Graham, their leader and advocate, has gained for the medical profession and the people of Colorado a much coveted honor—the opportunity to entertain in this city next year the most catholic body of scientific investigators and advanced medical workers in the world, the American Medical Association. To this annual gathering every State in the Union sends representatives in the persons of its most scholarly and conspicuous medical men, and to the deliberations of this Association are brought the fruits of enlightened and zealous laborers working in all fields of medical science all over the world. Seldom will the people of Colorado, and Denver in particular, have the honor again of welcoming so important and so imposing a scientific body, or one whose deliberations are directed toward such exalted ends, "the lessening of human suffering and the assuagment of human ills." Colorado and Denver are happy to be so signally honored, but happier still to be thrice armed with those natural graces and resources, so essential to a good host. If a generous hospitality, an earnest appreciation of the needs of our distinguished guests, a quality and salubrity of climate unsurpassed, a diversity of natural wonders and conditions not excelled anywhere in the world, the "*glad hand*" of a people and a profession living in enlightened fellowship with all laborers in the world of science will in part discharge the obligation imposed upon us, we accept the conditions and trust that all the world of medical workers will meet in Denver in June, 1898, enjoy our bounty, and becoming willing witnesses that our faith had been well kept and that the allurements of this land of sunshine and gold and the interest and sympathy of a progressive and prosperous people will serve as a sufficient recompense for the pilgrimage.—*Colorado Medical Journal.*

THE OSTEOPATHY BILL

The bill allowing a certain class of practitioners, styling themselves osteopaths, extraordinary and special privileges has recently passed both houses of the Illinois Legislature and is now in the hand of the Governor—let us trust for slaughter. It is incredible that a bill which confers special privileges on masseurs or chiropodists can receive sanction. Regular, "homeopathic" and "eclectic" under the existing law must come to practice under the medical-practice act, but these persons are to be exempted from any restrictions whatever. This is probably unconstitutional, as it is certainly class legislation. Under the provisions of the proposed bill all the irregular advertising mountebanks that masquerade under the name of "doctor" will become osteopaths and practice without let or hindrance. The act to regulate the practice of medicine in the State of Illinois was passed for the protection of the people of the State against the quacks. This bill renders the act of no use, and practically annuls, for it would be monstrous to require an educated physician to pass under restrictions which do not exist for the so-called osteopath, this term being simply used as a cloak for ignorance and deceit. The profession in Illinois are justly aroused, but too late to have made an impression on the Legislature, where the bill was kept very quiet. They now depend on the well-known good sense of the Governor to return this piece of half-baked legislation without his approval.—*Journal of the Amer. Med. Asso.*

ANIMAL EXTRACTS

The invasion of the animal kingdom in the search for remedies gives most excellent promise of leading us back to the brave old days of yore when the basest excretions of the body were essential ingredients of cosmetics to beautify the complexions of the court ladies and were recommended as draughts to cool the blood of the *beau sabreurs*. Until late years, except in the absurd *materia medica* of the homeopaths, the mineral and vegetable kingdoms supplied more than enough remedies to treat all the ills of humanity. But nowadays serum-therapy has become fashionably prevalent. We are the fortunate possessors (or can easily become so) of a serum for almost every general disease. Could we but catch the wandering Jew and tap him for a little of his serum we might secure immunity from death itself.

The latest addition to the list of remedies of animal origin is an extract of the heads of leeches, which is intended to decrease the coagulability of the blood in those who are in need of a circulating fluid of less inconvenient density. We are informed of the merits of this extract in the annual report of a very dignified and reliable drug-manufacturing establishment. According to the report it is an aqueous extract of the heads of Sanguisuga medicinalis, hardened in alcohol, dried and pulverized. We are pleased to learn that it retards the coagulation of blood not only *in vitreo*, but also in *corpore vivo*—it holds out no hope of retarding coagulation of blood in *corpore mortuo*. This effect is due to changes in the blood, microscopically demonstrable. Owing to the stimulating influence of the leech extract, the leucocytes are reanimated and with "higher vitality, mobility and voraciousness" return to the Homeric struggle with the invading hosts of pathogenic microbes. With the head of a Sanguisuga medicinalis emblazoned on their banners, they rush to the attack with all the address and abandon of those who swarmed up the breech of Ascalon. Are there any other extracts that are intended to fill a long-felt want? If so, there is a yawning, yearning "want" in the graveyard awaiting them.—*Southern Medical Record.*

MEDICAL EDUCATION

The multiplicity of institutions teaching medicine has placed the study of medicine within the reach of practically all persons. A very natural aversion to seeking the aid of the law in maintaining a professional standard has operated to prevent those who hold the honor of the profession in highest esteem from asking for the enactment of express provisions governing the requirements for admission to medical colleges. It has been believed that this was a matter that would in a short time bring its own corrective. But has it done so? Evidently not, if we may judge from the expressions of many members of the profession who have earned their right to speak, and who say in plain terms that it is time commercialism and other selfish and egoistic considerations in medical education received the stamp of professional disapproval.

There are in the United States about eighty institutions teaching medicine. In twenty-eight of these, located in twenty-one States, the matriculants for 1897 number, in round terms, 7,000. Estimating the total number of matriculants upon the actual figures from these twenty-eight institutions there would be for the present year not less than twenty-five thousand persons entering upon the study of medicine.

In almost all the colleges there has been an extension of the time required to graduate; but it is only in a few that the requirements for admission to the colleges have been measurably advanced. Many institutions have earnestly desired that some arrangement might be effected by which uniform requirements of admission could be established; but it must be said that the commercial or egoistic principle has directed the policy of the majority, and the better class of institutions have found it necessary to defer action, or lose their position and see students go to institutions far less qualified to give them proper instruction. The extension of the course is a concession to the increasing demand from within and without the ranks of the profession for better education, but this concession will mean comparatively little as long as the doors of so many institutions stand wide open for the reception of persons universally recognized as devoid of those qualifications which must be required of matriculants if the highest standard of the profession of medicine is to be maintained. It is the duty of the medical colleges to uphold the standard of the profession with firm hands.—*Medical Standard.*

THEORETICAL BRANCHES IN MEDICAL COLLEGES

Some time ago there came before a college Faculty the question of whether a certain student should or should not graduate. Seldom does a more difficult case for decision arise. His work in practical branches had been so near the perfect mark as could well be attained; in some non-practical branches, particularly anatomy, he had, in spite of repeated warnings, persistently fallen below the lowest standard. It was urged on the one hand that he would make a skillful practitioner, and that he would seldom feel the need of the subjects to which he had refused his attention. On the other hand, it was considered that the graduation of a man who had virtually ignored the requirements of the course would amount to a declaration that students could treat anatomy, physiology, etc., as elective studies.

It was finally decided that if a man matriculated at a college, he was bound to do faithful work in all branches considered necessary for graduation; that neither in the particular case, nor as a matter of precedent, was it wise to allow a student to choose what he would and what he would not study, and that the so-called non-practical branches were, indirectly, often of the most decidedly practical nature. Especially was it considered that no Faculty had the right to authorize a man to perform operations unless well grounded in anatomy.

We wish to commend the example of this

Faculty to others who may be placed in the same dilemma. Professional men are nowhere so scarce that it is necessary to strain a point in order to increase their numbers. We must bear in mind, also, that the profession differs from a trade only in that the former is supposed to include a knowledge of subjects having even an indirect relation to professional practice, whereas the trade requires only the knowledge of facts and methods which are pecuniarily valuable.—*Medical and Surgical Reporter.*

THE NEW DOCTORS

Once again we have listened to the valedictories; again witnessed the launching of newly made doctors as they were lowered from the rose-tinted atmosphere of imaginary patients, brilliant operations to be done, and great discoveries to bring them everlasting fame, and cover them with honor and glory forever and ever. But the cold, relentless seas upon which they are to float and finally to drift into some distant harbor, are, perhaps, different from what their fancies had painted. Each year will witness wrecks, till finally only the chosen few who have stuck to the helm, faced the billows of popular opinion, stemmed the undercurrent of envious opposition, and been unallured to the Islands of Carelessness by the siren voices of flatterers, will at last drop anchor in the Harbor of Success. Yet each of the recent medical graduates believes firmly that he will reach this destination and no other. If they could foresee all the hardships and worries that make up the average physician's life, they might appreciate without the bitterness learned of experience that the way of a doctor is not strewn with roses, but, like that of the transgressor, is hard.

Still, it is not altogether bad. Among the numerous addresses to the graduating classes there is, of course, an immense amount of monotony, the sameness of speeches loaded with mold and fungi acquired most probably during use in the preantiseptic era. Then there are other admonitions which, like truth, are always valuable.—*New York Polyclinic.*

SELECTED PAPER

PAROXYSMAL CRISES IN HYPERSECRETION OF HYDROCHLORIC ACID *

A Symposium

G. BARDET writes that paroxysmal crises due to hypersecretion of hydrochloric acid (*"hyperchlorhydrie"*) will present the following features at the commencement of an attack in a dyspeptic:

On a given day, without appreciable cause, the patient gets up feeling ill; he yawns; if you notice closely when his attention is engaged laterally, he squints; sometimes, even, he has diplopia; as mealtime approaches his malaise increases; not sure of his appetite on sittting down at table, he soon finds himself with a bestial hunger the satisfaction of which nearly always brings relief for one or two hours, after which pyrosis sets in, the head aches, and flatulence appears often to an extravagant degree. The flatulence determines the migraine by pressure on the pneumogastric. Each escape of gas is followed by disappearance of headache for a time; and this continues till from five to seven hours after the unlucky meal when the symptoms get worse. The pyrosis becomes horribly painful; at times vomiting occurs when the acidity of the gastric juice bathing the food is found to be considerable, either from hypersecretion of HCl, or from lactic acid of fermentation, in which latter case the distress is more extreme. When the stomach is finally emptied by vomiting, or by the usual course, the gastric phenomena cease; but the organ is left foundered and pain continues. At this stage, the too-acid food entering the intestine sets up strong reaction; oversecretion of bile occurs, whence follow hepatic troubles. The intestinal irritation may cause considerable pain. A kind of intoxication is produced, perhaps from absorption of toxins due to perverted digestion; but, often the patient falls into a leaden sleep resembling that of morphine. These commonest symptoms may sometimes be accompanied by vascular and cerebral reflexes and even febrile motion from auto-intoxication.

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* Translated and condensed for the AMERICAN MEDICO-SURGICAL BULLETIN from *Bulletin Général de Thérapeutique médicale, chirurgicale, obstétricale et pharmaceutique*, Paris, 1897.

Treatment as ordinarily employed aggravates the attacks; i. e., the exhibition of alkalies with a soda base, which furnish material for the formation of hydrochloric acid, thus extends for two or three days a crisis that otherwise would have lasted only during the period of one digestion. The rôle of the physician is ended when he has neutralized the excess of acid by magnesium hydrate, or bicarbonate of calcium, and given a few sedatives, e. g. grn. ⅓ of ext. of opium, or solanin, or condurango. The diet must be depended on to restore the organ and prevent new attacks.

The following cases are especially interesting because three of them were physicians who had served in the diagnosis of their own case and who had so given their history to their confrères as to mislead them also, making good the saying that "a physician who treats himself has a fool for a patient."

1. A country doctor tells me that he has an appendicitis, and that he has come to Paris for operation. I hear the facts of his case and am sceptical. He has suffered all his life with digestive disturbances, but for eighteen months these have been intensified. Attacks of pain, followed by vomiting of food or bile, would terminate in a continuous severe pain in the right hypochondrium, difficult to locate definitely, but certainly surrounding the neighborhood of the appendix. The attacks seldom terminated in fever. There was some impaction in both groins and the patient was habitually constipated. The patient, prevailed on with difficulty to defer operation, consented to adopt hygienic treatment, commenced by a series of purgatives. Once the intestines were unloaded the impaction in the flanks was gone. A little care in diet and the stomach improved. The vomit on one occasion was examined and found to be hyperacid. Eleven months convinced this doctor that he had no appendicitis.

He had previously adopted a purely milk diet, had applied twelve blisters over the cecal region during ten months, and employed laxatives only irregularly. Flatulence and vomiting kept up in spite of the milk diet.

2. The second patient, also a doctor, suffered a long time with digestive troubles—the constant refrain of these cases. In his case the phenomena took the hepatic form. For ten to twenty days, after what he called a prodromic gastric state, he experienced considerable pains about the liver often like a neuralgic belt; touching him on the right epigastrium enlivened the pain; the kidney of the same side was also tender to pressure, so that the patient was uncertain whether his sufferings were due to biliary lithiasis or gravel. For six months he employed alternately the cures for these two affections—water of Contrexéville, or of Evian: at home, lithia and piperazine for one, absorption of glycerin and oil of olives for the other, to say nothing of the use of boldo and narcotics in the attacks. When first seen by the author he was depressed to the degree of restlessness, with nutrition much lowered, and, like No. 1, had decided on surgical interference to remove from his gall-bladder the calculi, to whose presence he attributed his condition. Palpation convinced him there were no calculi. The acute crises of which he complained, however great their real intensity, lacked the violent tearing pains of hepatic colic: moreover the pains in the hepatic area never showed themselves until after quite a long siege of stomach trouble with flatulence; and finally, the time of his attacks was always four or five hours after a meal—a sign of great value. The patient's consent was obtained to leave off his medicines, and especially the fats and the opiates. A diet of small meals of *purées* of meat and farinaceous articles was prescribed to be taken at intervals of three hours. Laxatives were to be used freely. Wine, alcohol, fish, and fermented food of all kinds were forbidden. Milk was given in sips, only after the acute attacks, and but for twenty-four hours. He took no medicine. Followed for six months, this régime at first lessened and then suppressed the attacks. His nutrition rapidly improved, and fairly good health came back to him with rarely any disturbance. This case shows how drugs may exaggerate the patient's condition in gastric affections and obscure the symptoms needful for a proper diagnosis.

In such a patient examination of the gastric juice immediately after an attack, when no narcotic has been used, shows excess of free hydrochloric acid. If a narcotic has been used, it may show deficiency of hydrochloric acid.

3. The third case, also a doctor, is now under treatment, and is most interesting from having been seen by distinguished Paris and Nancy physicians—the more doctors, the more opinions; so much the better for the clinic. This man wrote the author for the best treatment of cholelithiasis, with

which he had been afflicted for several years. The author asked for his history, and suggested perhaps his difficulty was not cholelithiasis. It runs thus: Father died of gastric ulcer. The patient has been arthritic for many years, has functional gastric disturbances due to excess of hydrochloric acid, has obstipation. In 1895 he had several seizures of pain in the epigastrium, quieted by chloral, potassium bromide, and opium—note this. In January, 1896, a more painful attack radiating to the liver, which he relieved by an injection of morphine. In April he had a more severe attack, with pain extending into the right flank. There was no lessening of appetite before attacks. This attack was followed by fever and gastric disturbance for several days, the pain extending into the abdomen. In July he had a new attack, without fever. In October another, with fever and gastric disturbance, pain in the region of the liver. The patient used sodium bicarbonate and morphine in these attacks. Because the treatment produced no result he accepted the diagnosis of two of his confrères—biliary lithiasis. Examination of the liver never denoted increase in size nor disclosed presence of calculi.

The author diagnosed simple hypersthenic dyspepsia, with paroxysmal crises exaggerated by use of alkaline medication and narcotics.

His former consultants had diagnosed: biliary lithiasis with excess of hydrochloric acid; simple excess of hydrochloric acid with possibility of lithiasis; dilatation of the stomach; functional insufficiency, with hyposthenia and deficiency of acid; and organic gastritis. Some recommended calcareous bases; some alkaline bases; some sent him to Vichy or Vittel, others recommended bitters and stimulants. The patient filled himself with glycerin and took boldo and morphine. It is a good case of therapeutic disagreement, and it is remarkable that no analysis of the gastric juice was made. For one month the patient has put himself on the proper régime for excess of acid, has stopped alkalies and narcotics, and at latest accounts his local and general condition were both much better.

4. The last is not a doctor, but a country gentleman, who has suffered from indigestion for many years. He is a hypochondriac of nervous parents, and has nervous relatives. He takes everything he sees advertised. First, advice was given in doubt between hypersthenic functional trouble and cancer. Following the practice of Albert Robin, the author disregarded the graver possibility and treated as if only the lesser presented, viz.: excess of acid. The patient's condition improved rapidly, he gained in weight, and the unfavorable prognosis was set aside. Bad weather on a vacation trip acted unfavorably on his nerves and brought back his gastric troubles. Disturbances in circulation misled the physician called, who prescribed potassium bromide and iodide, 45 grn. of each a day. As digestion got worse milk-diet was prescribed. But in spite of it, or on account of it, nutrition failed, with a loss of 17 kilograms in weight. When seen again by the author he was thin and famished and had excess of free acid. The cardiac reflexes had caused the disturbance of circulation. He stopped the salts of potassium, the nervous phenomena disappeared, and his condition improved. Here was a bad diagnostic error. The milk-diet had, in this case, as in No. 1, contributed to make the gastric disturbances worse. If milk, properly given, is the best diet after acute attacks, it will soon itself become a cause of trouble when kept up too long, because it serves as an excellent culture-medium for abnormal gastric ferments.

Hypersthenic gastric disturbance is a functional one of extreme frequency. In its many and varied manifestations it may be easily misunderstood. It should be kept in mind continually when in the presence of troublesome gastric symptoms. The management of these cases of excess of acid is simple, in all cases is without danger, and is a good first ground for treatment, even if another diagnosis is confirmed. On the other hand, the stimulating treatment for gastric insufficiency is dangerous for these (hypersthenic) cases, aggravating gastric disturbance already serious, and is admissible only for the cases whose diagnosis, when confirmed, justifies their use.

A. MATHIEU.—I regret that M. Bardet has not indicated by what technic he arrived at the diagnosis of hypersecretion of HCl (*"hyperchlorhydrie"*), because of our uncertainty of the exact nature of the facts on which he bases his diagnosis and treatment. His claim is well founded that in certain cases of paroxysmal crises in dyspepsia with "hyperchlorhydrie," a firm insistence on simple diet and a small dose of an alkali are more efficacious than active medication with soda, opiates and bromides. But this diet régime which he employs will not always suffice to effect a cure of these dyspeptic paroxysms in which chemical analysis reveals excess of HCl. Now, what are the cases in which M. Bardet's almost exclusively hygienic treatment suffices for prompt and adequate relief? There are various clinical forms of hypersecretion of HCl. But hypersecretion of HCl is not a definite disease; it is only a symptom which does not admit of uniform treatment. The sole therapeutic indication is to avoid everything that will increase the secretion and seek the best means of quieting and restraining it; and for this the diet regimen is more important than medication. The clinical types of the condition are: 1. Latent hypersecretion of HCl, which exists without the patient's knowledge because he does not suffer from it and enjoys perfect health. Why consider this excess a diseased condition, since it obtains naturally here and gives no discomfort?

2. Gastric crises of neuropathic origin with hypersecretion of HCl, characterized by intense pains and vomiting, having their prototype in the gastric crises of the preataxic stage of tabes. Here the nervous system creates the attack which may show itself, even where there is insufficiency of HCl. The important fact here is not the hypersecretion of HCl, but the gastric crisis itself. Parallel conditions are seen in general paralysis, simple neurasthenia, hysteria, migraine, sometimes cases of movable kidney and malaria which, according to Soupault, may produce a like effect on the nervous system. Therefore it would be a mistake in such gastric crises to treat the hyperacidity exclusively and directly. In the intense crises of ataxics the only real remedy is an injection of morphine. For less intense neuropathic crises, rest and non-irritating food may suffice.

3. Occasional hypersecretion of HCl, with painful paroxysms at long intervals, brought on by mental disturbances, fatigue, excesses in eating. In the neuropathic, the attack may be quite like gastric crises with hypersecretion of HCl, relieved by rest or non-irritating diet, or anodyne sedatives. The sequel may be either a deficiency of HCl, or the hyperacidity may become constant.

4. Continuous hypersecretion of HCl with daily paroxysms, brought on especially by hearty meals, the pain occurring three or four hours after taking them. Here, as in all cases of hypersecretion of HCl, remove all physical or chemical irritants from the diet. The mucous membrane of the stomach, hypersensitive to HCl, either because of being inflamed or because of the neuropathic state of the patient, is the best of reagents in these conditions. If this is not enough, alkalies to allay the pain must be given at the moment when the pain commences to be felt. This is more important than the quantity or nature of the medicine chosen; but even this, in certain neuropaths, is not enough to quiet, and resort must be had to morphine, cocaine, etc., after first trying hot applications to the stomach.

5. Continuous hypersecretion with stasis, described by Reichmann. We thought at first that hypersecretion was always the primary fact, the master symptom of the complex clinical phenomena which produced atony of the stomach and stasis. But we now tend to think that the hyperacidity provokes spasmodic occlusion of the pylorus, and, in that way, stasis of the liquids in the stomach. More recently we have asked ourselves if hypersecretion at the outset really exists. Facts observed by Rosenheim, Boas and myself have proved that, in relieving stasis, hypersecretion is suppressed at the same time. This is especially well seen after gastro-enterostomy. Primary hypersecretion is certainly rarer than we at first believed. Very often, when Reichmann's syndrome exists, there is an organic narrowing of the pylorus. Continuous hypersecretion with stasis, from spasm of the pylorus and insufficient motive force of the stomach, in the absence of a mechanical stenosis of the pylorus, will be met by means similar to those for simple hypersecretion with daily paroxysms.

6. Hypersecretion of HCl, with mechanical narrowing of the pylorus, is due most frequently to an ulcer not yet cicatrized, or to the cicatrix of an old ulcer. The stasis is proportionate to the completeness of the stenosis. The stasis is often incomplete; the stomach empties itself by regurgitation, but a depression behind the pylorus is never quite cleared of a residue in which acid and

gaseous fermentation take place. It is not enough to reduce the food-irritants and neutralize the acid by alkalies. The stomach-tube must daily remove the stagnant liquid, and lavage must be done every two or three days. The real treatment lies in re-establishing communication between the stomach and the intestine, which gastro-enterostomy accomplishes.

7. Hypersecretion complicated with round ulcer, which is not rare. When the ulcer is not at the pylorus there is less stasis. Bismuth subnitrate is especially indicated. Gastro-enterostomy is indicated, in the absence of permanent stasis, if the pains are intolerable.

The therapeutic measures employed by M. Bardet in the cases reported can succeed only

(1) In gastric crises with hypersecretion of HCl;

(2) In slight exacerbations of latent hypersecretion of HCl; or,

(3) In intermittent hypersecretion of HCl with daily paroxysms.

They would be insufficient in the other varieties, for which are indicated alkalies; sedatives, when neutralization by alkalies fails; in stasis, daily removal of retained liquids and lavages; and, gastro-enterostomy.

Milk-diet with alkalies is perfectly satisfactory, because they are used together, which prevents formation of lactic acid. Milk ought to be taken at regular intervals in quantities of less than half a pint, slowly, by sips, for from fifteen to twenty minutes, to prevent large coagula. The milk-diet is supplemented, when the patient ceases to suffer, by eggs, soup, chicken well-stewed, little fish boiled, and *purées*.

Alkalies ought to be given as soon as the pain commences, in doses large enough to stop it. The dose may be diminished from day to day until its use may be stopped at the end of eight or ten days. If stenosis of the pylorus exists, such good results will not be had. It matters little what alkalies are used provided they are used as above. Magnesia has the advantage of being purgative, and in equal weight, of neutralizing twice as much acid as does soda. Prepared chalk is preferred by Debove because it dissolves only proportionately to the production of acids and because it neutralizes the gastric juice without alkalizing it. One, or other, or both may be used according to the presence or absence of diarrhea or constipation.

Though soda is objected to because of the large quantity of CO_2 produced and the secondary excitation of secretion of HCl by alkalizing the gastric juice, or by the sodic chloride product, yet my results have been excellent since experience taught me to use it according to the rule given above. But if bismuth, chalk, and magnesia are employed, soda is unnecessary. Again, we can use soda combined with organic acids, as citrate, benzoate, borate, and tartrate; and the salicylate especially would be indicated to check gaseous fermentation in hypersecretion of HCl.

LE GENDRE.—I applaud unreservedly M. Bardet's general idea that we must absolutely avoid giving strong medicines, at least by way of the stomach, to patients having painful gastric crises. In the future, reduction in the number of gastropathics will depend, not on medicines, but on the culinary art. Mathieu's interesting observation that hypersecretion of HCl is not a disease but only a symptom, and that many who have it suffer no discomfort therefrom, has its counterpart in those who suffer most violent gastric pains with a normal, or but slightly hyperacid, state of the gastric juice. This signifies that they have abnormal sensitiveness, hyperesthesia, of the gastric mucous membrane. Knowing them to be neuropathic, we have no more right to be astonished at their crises of gastric hyperesthesia than at their cutaneous, urethral, vesical, or pharyngeal hyperesthesia. If diseases of the stomach have an anatomical and functional substratum from multiple causes, so also their symptoms, especially paroxysmal pains, depend chiefly on nervous reactions; and we must look for these in the central nervous system.

M. Bardet tells us his patients were affected with "gastric hypersthenia," with "hypersthenic dyspepsia." Why does he go back half a century for vague words to represent vague ideas? Why thus ignore the more precise knowledge of the physiological and pathological functions of the stomach which so many physicians during that time have worked to embody in the terms "hyperchlorhydrie" and "hyperpepsie" now in use? The very word "hyperchlorhydrie" at one and the same time represents a pathological condition and suggests the proper chemical and physical therapeutic correctives. But the term "gastric hypersthenia" gives no clue to the therapeutics needed. For "hypersthenie" why not "excès de force"? Does he mean that the mucous membrane secretes too much gastric juice? If so, why not "gastrosuccorrhée"? Or, does he mean it is too rich in HCl? In that case we have "hyperchlorhydrie." Does he mean the muscular coat contracts too forcibly? If so, he is manifestly in error, for in these patients the contractility of the stomach is almost always insufficient, as M. Mathieu has just said.

In closing, I shall insist on two therapeutic measures for these paroxysmal gastric crises, viz., rest and warm-water cure. Rest here means complete rest, intellectual, moral and physical. You have all heard a dyspeptic say: "Singular thing! All the year I have suffered with my stomach. As soon as I took my vacation that ceased. When I returned to the office I had my stomach trouble again." What means this but overwork and consequent functional disturbance of the stomach and hyperesthesia? This absolute rest recommended by Professors Bouchard and Hazem ought to be among the prescriptions written by the doctor for gastric crises.

Frequent warm baths, sometimes daily and prolonged, often also the rain-douche, are soothing to the excitably nervous, and are the useful complement of the alimentary régime—rest, discreet lavages, prepared chalk, soda, bismuth, and magnesia. This is the whole of my therapeutics, as it is also of M. Bardet and M. Mathieu.

Bardet.—M. Le Gendre's sole criticism on my employment of the word "hypersthenie" is a just reproach; but the word is not mine, it is a term of Robin's classification, borrowed from Broussais. But the word pleases me, meaning "energy out of proportion to the end": the stomach works too much for a small task. It is vague, of course, but useful to represent a large collection of symptoms, varying according to the individual. I admit it implies no therapeutics; but to unwary doctors "hyperchlorhydrie" or "hyperpepsie" may suggest too many medicines, which is the very difficulty we agree in wishing to avoid.

M. Mathieu's criticism that I have indicated a treatment suited to only a few cases of hyperacid dyspepsia is just; but he has most magnificently filled in the gaps. I meant merely to call attention to the particular points brought out by my cases, viz., paroxysmal crises. I established the presence of free HCl in only three of my cases from the gastric juice of the vomit—my only opportunity for analysis. I think M. Mathieu's distinct groups of dyspeptics are artificial. "Every hypersthenie passes through different states," presenting different groups of phenomena in each. The mischief is that if you attach your therapeutics to your pathological groupings, as M. Mathieu has done, you mislead inexperienced physicians who accept your groupings and treat with dangerous medicines mere phases of a disease that is proteiform—a leading cause of errors of diagnosis and therapeutics.

I agree with M. Mathieu that the anodyne medication rapidly sketched by me would be unsuitable for some of the cases of which he spoke; but I claim that we are then no longer on merely functional ground, but in the domain of lesions. We understand each other very well, and agree that, in troubles due to functional excitement without lesions, it is good practice not to employ very active medication.

M. Soupault.—M. Mathieu's classification appears to me in all points excellent. Though it is useful to make these clinical categories, they have no individuality proper, since they are but different phases of the same morbid process and pass into each other by insensible gradations. An individual who to-day has only intermittent digestive malaise, coming on after excess, great emotion, or fatigue, may to-morrow have a "hyperchlorhydrie" with continuous paroxysms and continuous hypersecretion. That is, hyperchlorhydric dyspepsia is but one disease. At the beginning it is only a simple functional trouble, which ultimately causes organic lesions—gastritis, ulcer of the stomach, and dilatation, with or without stasis—complications modifying the original aspect of the disease and gravely affecting its prognosis.

As a functional trouble I spoke of it in February, 1893, as "hypersthenic dyspepsia," regarding it as an expression of the exaggerated activity of all the functional forces of the stomach. Since M. Le Gendre has vigorously criticized this term, I shall indicate my reasons for adopting and adhering to it. Passing by secretory hypersthenia, demonstrated by analysis of the gastric juice, and sensitive hypersthenia, whose importance M. Le Gendre has well emphasized, I shall confine myself to motor hypersthenia, or spasm of the stomach. The two muscular structures of the stomach, that of the wall and that of the pyloric ring, are apparently antagonistic. Physiology teaches us that the muscular walls churn up the food and afterward contract behind it to force it out into the intestine. The pylorus opens at the same time, and the food passes without effort, almost as if it were overflowing. Now, in "hyperchlorhydrie" the harmony is broken: under an influence we do not understand the pylorus contracts and offers a strong resistance to the passage of the chyme. The struggle of the muscular walls against this resistance produces that collection of troubles which constitutes hypersthenic dyspepsia.

We may admit, *a priori*, that regurgitation of food, gaseous eructation, pyrosis, and even vomiting are due to the revolt of the muscular coat of the stomach. But I wish to demonstrate that the special pain which Cruveilhier described in round ulcer, and which we now know to be peculiar to "hyperchlorhydrie," is due also to contraction of the gastric muscles.

In the first place, this pain never shows itself fasting, but only some hours after a meal, precisely at the moment physiologists tell us the food begins to pass into the intestine.

Some authors, notably Albert Robin, tell us they could feel the contraction of the stomach in the epigastric hollow during the painful crises. We see pain of the same kind and at the same time in organic narrowing of the pylorus after either cicatrized round ulcer, cancer, or pyloric lesion, so that the diagnosis of these morbid states with "hyperchlorhydrie" is often very difficult. In cases of intolerable gastric pain rebellious to medical treatment, gastro-enterostomy has relieved all the functional troubles, just as if it were a case of mechanical obstruction.

M. Mathieu and M. Le Gendre, in repudiating the term "gastric hypersthenia," have recalled that in a number of hyperchlorhydrics we could make out a more or less considerable dilatation of the stomach. Nothing is easier to explain if we admit contraction of the pylorus as the cause of the troubles. The muscular coat allows itself to be distended in the same way as does the left ventricle of the heart when there is obstruction in the arterial system.

We know that "hyperchlorhydrie" is accompanied by delay in evacuation of food from the stomach. It is interesting to know that in insufficiency of HCl ("hypochlorhydrie," the opposite of "hyperchlorhydrie"), Prof. Hayden has well shown that there is a more hasty evacuation of the stomach, the food remaining in it a shorter time than normally. It is probable that in these cases there is an insufficiency in the muscular contraction of the pylorus which allows the too easy passage of food into the intestine.

These facts show the importance of the part taken by the muscular apparatus of the stomach in the symptomatology of hyperchlorhydric dyspepsia. It remains to show that these troubles do not seem to be necessarily dependent on the excess of the secretion. Two facts support this—latent "hyperchlorhydrie" and the results of alkaline medication. The latent hyperchlorhydrics are an important group in gastric pathology. Sometimes they enjoy all the appearances of good health; sometimes they have a general malady or a localized affection; sometimes they have no disturbances, as in cases cited by M. Mathieu; but at other times round ulcer may follow and end in hematemesis or perforation of the stomach. In either case the fault in secretion is unaccompanied by motor trouble.

Again, the experience of each day shows what good effects we obtain from the administration of alkalies in the treatment of gastropathies. It seems quite natural to say, by way of explanation, that they act by neutralizing the gastric acids—pretended cause of all the difficulties. But this simple explanation is manifestly insufficient. We can see that certain patients, admirably relieved by soda, have a normal or subnormal supply of gastric juice. Debove has for a long time insisted on this fact, and I have seen many cases of it. Quite lately an apeptic, whose gastric juice, analyzed one hour after a meal by Ewald's method, was neutral, yet obtained complete relief by taking soda at the moment of pain. Linossier has reported similar facts. On the other hand, I have examined hvperchlorhydrics and cured them with soda. Analysis of the gastric juice one or two weeks after cure of the functional troubles showed it to be clearly the same as in the dyspeptic period.

Finally, there exists a certain number of hyperchlorhydrics in whom soda gives little or no relief but bismuth subnitrate cures—a salt that is insoluble and leaves the acidity unaltered. Without seeking to explain the facts, I infer that we cannot conclude from the effects of alkalies that excess of HCl plays a preponderating role in hyperchlorhydric dyspepsia.

These are the many reasons that justify the use of the term "gastric hypersthenia" in preference to "hyperchlorhydrie," which seems to attribute the cause of the symptoms peculiar to this affection in an unwarranted degree to the excess of HCl.

One more fact: Gastric hypersthenia almost always shows itself in individuals with an excitable, nervous system, whereas hyposthenia shows itself in those nervously depressed.

The therapeutic deductions are: (1) Avoid exciting the stomach; (2) try to calm it. To meet the first indication, procure rest of the organ by one or two weeks in bed, with abstention from all food except food enemata for five or six rays, after which commence with milk or bouillon in small quantities, and gradually and slowly increase. Resume solids only when liquids give no more pain. In cases of medium severity, proscribe coarse and irritating foods, and finely divide all others to save the stomach the work of liquefying—its chief function. Meat powders, meat pulp, *purées*, cream, etc., answer. Solids must be masticated long and thoroughly; meals few, at regular intervals, to avoid physiological congestion; an hour of rest or sleep after a meal. Avoid all physical or moral fatigue. A vacation always helps. To meet the second indication, apply revulsives to the epigastrium, hot or cold compresses, sinapisms or cataplasms, or prolonged use of methyl chloride. Electricity and massage are contraindicated; so are lavages, except in stasis. In the first stages they are harmful. Use alkalies as palliatives, not as cures; commencing with small doses at the moment the pains begin, repeating them if the pains return. In some neuropaths morphine, cocaine, belladonna, or chloroform or menthol water may be needed. Warm shower-baths or prolonged hot baths do good. Bromides in enemata are indicated for the excitable.

Albert Mathieu replied that M. Soupault's term "gastric hypersthenia" did not answer to the majority of cases, and it was rare to find cases of "hyperchlorhydrie" in which the excess of secretion coexisted with quick evacuation of the stomach. He did not believe with M. Soupault that the pylorus opened up only at the end of digestion. Experiments made by M. Hallot and himself, reported to the congress at Lyons, showed that the evacuation of the contents of the stomach began at the outset of the digestion. Therefore, we cannot consider spasm of the pylorus as an exaggerated prolongation of a normal phase of digestion. Relaxation of the walls of the stomach, or spasmodic stenosis of the pylorus, is due to motor inco-ordination. To be very exact we should have to say secretory hypersthenia with motor inco-ordination terminating in stasis, instead of "hyperchlorhydrie with stasis."

Where suffering continues after acids

have been neutralized, it is because of hyperesthesia or lesions of the mucous membrane.

That dyspeptics without excess of HCl are relieved of pains by alkalies proves nothing against the preponderating role of hyperacidity, for they may suffer from hyperesthesia following *organic* acidity.

Certain neuropaths get into the habit of taking soda, thinking they are hyperchlorhydrics, and say they cannot do without it. You examine their gastric juice and find it deficient in acid. They are nervous patients, in whom suggestion has led to habit. That does not demonstrate that spasm of the pylorus is somewhat directly the cause of the pain in most cases of "hyperchlorhydrie," nor that the term hypersthenia is that which best corresponds to the pathogenesis of the pathological phenomena in "hyperchlorhydrie."

In spite of our individual preference for different terms, we both seek to calm the excitation of the stomach. Though M. Soupault sees spasm of the pylorus and I hyperesthesia, both arrive at the same conclusion.

Our idea of the pathogenesis of painful disturbances may, however, seriously affect our conduct in therapeutics. M. Doyen, in his book on surgery of the stomach, seeing the principal cause of dyspeptic pain in spasmodic occlusion of the pylorus, reasonably advises the use of hot drinks to relax the sphincter, because they are calmatives. But it is a graver matter to see in this occlusion indication for surgical interference. Similar differences in pathogenic ideas will cause serious differences in treatment, in which case it is not a mere quarrel about words.

M. Soupault defended himself by saying that the occlusion of the pylorus in the course of gastric digestion is admitted by a large number of French and foreign physiologists. J. Ch. Roux recently communicated to the Society of Biology interesting researches confirming this opinion. Using Bianchi's phonendoscope, he has found that a meal quits the stomach three or four hours after ingestion, and that rapidly. But the liquids behave differently from the solids, the former leaving gradually, commencing ten to fifteen minutes after being taken; but the solids are always expelled at a later hour.

A. Mathieu.—M. Roux has been able to establish only one thing with his phonendoscope, viz., that the volume of liquid in the stomach remains high during a long period. That does not prove that it is not passing out from the beginning. Our researches have demonstrated that in the first phase of digestion the quantity of liquid in the stomach exceeds the quantity taken in by the amount secreted from the salivary and gastric glands. That does not prevent evacuation of liquid from going on from the outset: secretion adds for some time more than the pylorus allows to escape onward. That could not be made out by means of the phonendoscope. That examination from without would only reveal a constant volume of liquid in the stomach during a long period of digestion. H.

Scarlatinal Nephritis

Dr. H. Levy, in *Der Aerztliche Praktiker*, Vol. X, No. 5, 1897, relates the following:

L. K., 31 years old, thoroughly healthy and strong, nursed her boy, 5 years old, who was suffering from a mild attack of scarlatina, and recovered fully, without complications or sequelæ, within four weeks. On the second day of the child's illness the mother complained of a slight, afebrile angina, which subsided in twenty-four hours. About four weeks after she was suddenly attacked with a mild chill, the temperature rising to 101½; dull frontal headache, desire of frequent micturation and pain in the hypogastric region radiating toward the urethra. There was no eruption nor edema. The throat, thoracic and abdominal organs were normal. Slight sensitiveness on pressure was experienced in the left renal region. The quantity of urine was greatly diminished, bloody in color, of acid reaction, and contained more than a third of albumin. In two days the temperature fell to normal; in five days the bloody admixture disappeared, when viewed with the naked eye, while the microscope revealed red blood-corpuscles, hyaline casts covered with epithelial cells. After three weeks the patient was entirely well again.

Dr. Levy is inclined to attribute this case to scarlatina infection, and to class it among those designated by Lichtenstern as "scarlatinal fragmentaria." The rapid course and complete restitution *ad integrum* were also suggestive of its scarlatinal origin.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

JOSEPH P. WINSTON, M.D., GEORGE E. WEST, M.D.,
W. J. ROBINSON, M.D., L. SCHÖNEY, M.D.

Emotion-Dyspepsia

Dr. O. Rosbach considers this disease in *Berlin klin. Woch.*, Nos. 4 and 5, 1897:

Immediately or a few days after a fright or vehement emotion, besides nervous manifestations and muscular pain in the back and abdomen, there set in mild and severe symptoms of indigestion; aversion to food; either dryness in the mouth or excessive secretion of the saliva; pressure in the epigastric and hypochondriac regions; sensation of swelling and at times visible prominence of the epigastrium; dyspnea, belching, flatulence, sometimes colic with irregular forms of diarrhea. The patients feel hungrv, but find no taste in the food. As a rule, they are very cautious in selecting their food, after abstaining from it entirely; but this is instrumental in aggravating the hyperesthesia of the digestive organs. Voracious appetite alternates with complete loss of it; diarrhea with constipation, heartburn with eructations of gas, and finally the patients reach an almost cachectic state. Vehement emotion occurring when the stomach is full is less injurious than when it is empty; while the consumption of a meal during the emotion, often gives rise to the disease in question. This affection may be diagnosed by considering the etiology, the changeableness of symptoms, the normal gastric contents and absence of objective symptoms in contrast to the complexity of the complaints of the patients, and by their nervous temperament.

Treatment: Complete control over the patient. Administration of "small doses of common sense." Judicious regulation of mode of life. Accustoming of the digestive organs to a normal homely fare. Calming of the emotion by drugs, like small doses of cocaine, in the beginning of the affection.

Heart Diseases Treated by Exercises and Salt

Dr. G. Lyon (*Rev. de Therapeut med.-chirurg*, No. 1, p 18, 1897), reviews a contribution to *Méd. mod.* (No. 93, p. 705, 1896), by E. Barié, as follows:

Up to recent years, patients with organic heart affections were advised to give up exercise of the body, such as fencing, dancing, jumping, swimming, rowing, skating, running, gymnasium exercises and cycling. But now some German and Austrian physicians recommend walking and physical exercises to be practised in a certain way and under certain conditions.

1. The most famous mechanical means is the treatment proposed by Oertel (1885), which consists in the gradual and progressive climbing of mountain slopes completed by a series of means, including special alimentation, steam and hot air baths and massage. His aim is:

(1) To raise the contractile force of the cardiac muscle and increase its energy by methodic climbing;

(2) To diminish by sweating and diminution of drinking, the quantity of liquids in the economy, and thus cause disappearance of venous stasis and peripheral edemata;

(3) To diminish obesity and thus lessen the work of the heart.

To obtain the first—the increased functional activity of the heart—Oertel recommends gymnastics, movements, walking in the open air, and especially climbing slopes. The climbing of the mountain slopes is done sometimes in one or two stages, sometimes in three or four, to reach the curative point, which corresponds to 3000 or 4000 steps twice a day. Oertel claims a greater loss by perspiration from climbing a mountain of 362 meters than that from hot baths. The end is to get rid of the fatty heart. The muscular fibres, freed from clogging by these fatty matters being burnt up, regain their contractile vigor. The climbing thus raises vascular pressure, widens the arterial paths, increases the amount of blood in the arteries and soothes the strained nervous system.

Oertel's detractors say that these methods will dilate the heart-cavities and hasten the onset of syncope in certain cases. If it may be of utility in certain well-compensated lesions of the heart in neuroses, and especially in fatty heart, it ought to be rejected in recent endocarditis, true angina pectoris, advanced arterio-sclerosis, valvular lesions in asystole, in myocardiac degeneration and aneurismic dilatations of the aorta.

2. The cure by "altitude" may give results as good as those by walking provided, as Legrange says, the altitude is progressively graded. Practically, patients should not be allowed to take an altitude above 1000 meters to begin with. On the appearance of the slightest inconvenience patients should keep absolutely quiet, and if rest does not remove it, they should without further delay, descend to a resting-place of less altitude.

3. Swedish movements may in certain circumstances tone the heart-muscles. The

brothers A. and W. Schott have recommended a mixed treatment, consisting of a series of movements and salt-water bathing. Heinemann (of Berlin) is equally partial to the hot salt-water baths.

4. Moderate use of the bicycle may be authorized in certain cases, but must be forbidden in advanced arterio-sclerosis, aneurismic or suspected cardiac steatoses.

5. Massage completes the mechanical means. This should be light and soft at first, followed by kneading, always in the direction of the venous circulation.

Methylene-Blue in Malarial Fevers

According to Dr. Laveran (*Medical Week*, Vol. 5, No. 15) methylene-blue cannot be considered as a genuine substitute for quinine in all cases of malaria. It should only be employed in cases of simple intermittent fever when, for some reason or other, quinine salts are contraindicated. It is well known that, in certain subjects, even small doses of quinine determine hemoglobinuria or other ill-effects. Quinine is also considered as possessing abortive properties, and it must therefore be employed sparingly and carefully during pregnancy. In such cases, methylene-blue may be employed instead of salts of quinine.

This drug appears also to be indicated for children who object to quinine on account of its bitter taste.

The administration of methylene-blue in doses of from 60 ctg. to 1 gme. daily apparently produces no ill effect, except slight cystitis in some patients, which subsides as soon as the administration of the drug is discontinued. B.

Causes of Bad Taste and Odor in the Mouth

The notion existing among the laity, and also among physicians, that gastric disturbances are almost exclusively responsible for a bad taste in the mouth, is wrong, says Dr. Herzfeld, in the *Therap. Monats.* (XI, 1). Only second to affections of the stomach as an etiological factor, are the tonsillar crypts, in which there accumulate mucus, dead epithelial cells and particles of decomposing food. These cheesy accumulations sometimes come out spontaneously and have a fecal odor. The reason they are so frequently overlooked is because they are concealed by the anterior pillars of the fauces and can be seen by only using a retractor. The treatment consists in removing the tonsils or in slitting the crypts open with a narrow curved knife. Among the other causes of bad taste the author enumerates: carious teeth, inflammations of the mouth and the throat, adenoids, ozena, suppuration in the nose and accessory cavities, suppurative inflammation of the ear, and lastly, the cause may be of a nervous nature (paræsthesia gustatoria).

Rheumatoid Arthritis

Dr. Bannatyne (*Med. Times and Hosp. Gaz.*, No. 996) advances the theory that rheumatoid arthritis is of bacterial origin. He admits that the proofs are not yet conclusive, but the theory is based on the discovery (by him, and by Chauffard and Ramond in France) of a micro-organism in the synovia and blood obtained from rheumatoid joints and upon the fact that the affection is very favorably influenced (according to the author) by the administration of antiseptics, as guaiacol carbonate, benzosol, salol, etc. M.

Beri-Beri in Africa

Aside from being an addition to the literature of this very interesting disease, the article by Dr. Lasnet, of the French Colonial Service (published in *Archives de Médicine Navale et Coloniale*, Feb., 1897, and epitomized in the *Lancet*, No. 3840), presents an argument in favor of the systematic employment of incarcerated criminals.

Dr. Lasnet acquired his experience at the Dakar prison in Senegal, Western Africa. The total number of prisoners under his observation during the year 1895 was 647, of whom 52 were Europeans, the remainder being natives of the region. The two classes are said to have lived under identical conditions with regard to both food and lodging; but whereas no European or mulatto contracted beri-beri there were 45 cases among the aboriginals, the men in the military division being three times more liable to the disease than their civilian congeners; 149 military prisoners caused 24 admissions during the twelvemonth, but out of 446 civilians only 21 were attacked. Length of residence in the gaol and want of occupation, together with overcrowding, defective ventilation, and utterly inadequate provisions for cleanliness and the removal of filth and ordure were the chief determining causes. Of thirty-two soldiers who had been confined upward of five months, two-thirds became affected. The civilian prisoners used to be sent out to work in the vicinity, but the enlisted men claimed exemption from the *corvie* and lay idle all day long, wrapped up in their blankets. The affection generally commenced toward the third month of incarceration with malleolar edema and constipation, attended by depression of spirits, varying from listlessness to profound apathy. When fully established the usual symptoms of the disorder were well marked: non-pitting dropsy, paresis of the lower limbs, mainly implicating the extensor muscles, diminished reflex excitability, partial cutaneous anesthesia, and the characteristic dragging gait. Toward the end unquenchable thirst was a most distressing concomitant, the unfortunate sufferers complaining of a feeling as though fire were consuming their vitals. At no stage, however, were febrile phenomena to be detected, the writer's words on this head being most precise: "Not the slightest reaction manifesting itself in fever or by inflammatory developments; in all cases the most complete apyrexia."

The only treatment of any permanent efficacy was an entire change of scene.

When the disease made its appearance for the first time compulsory exercise was invariably followed by an amelioration of symptoms, but if the patient remained in prison a relapse ending fatally was sooner or later certain to supervene. Taking advantage of an article in the prison regulations, the principal medical officer, Dr. Clarac, recommended the discharge of twelve prisoners suffering from beri-beri, in order that their lives might be saved. The proposal, which required ministerial approval, was duly sanctioned; but before the official information reached Dakar three months had elapsed, and five out of the twelve patients were dead. The seven were at once set at liberty, and eventually all of them recovered. Dr. Lasnet is of the opinion that telluric and meteorological influences have not much to do with the production of beri-beri. The buildings constituting the prison are well exposed to the prevailing winds and stand on ferruginous volcanic soil from two to three meters in depth, beneath which an argillaceous stratum slopes downward toward the sea, thus rendering all water-logging impossible.

He attributes the blame solely to the unhygienic conditions under which the prisoners at Dakar were allowed to live, but the chief determination of the disease is the lack of suitable employment. M.

The Function of the Thyroid Gland

Dr. A. Chassevant (*Les nouveaux Remèdes*, No. 21, p. 633-652), in speaking of the function of the thyroid gland, says little was known of the function of this organ until very recently. Reverdin was the first to investigate this subject seriously. He, with others, noticed that extirpation of the gland induced certain cachectic phenomena. He further noticed that these phenomena greatly resembled the symptoms of a disease called "myxedema," which at that time had not received much attention, and called these collective symptoms "post-operative myxedema, or strumiprive cachexia." He believed that the derangements accompanying myxedema, as well as the symptoms following removal of the thyroid body, were due to the loss of function of the thyroid. When extirpation was practiced on animals, the same train of symptoms was observed, except that the disturbances in these animals—dog, cat, monkey, etc.—were mainly convulsive phenomena; whereas those in man were usually trophic, the reverse being true with man and animals in exceptional instances, myxedema having been observed in a dog.

In certain subjects—rats, rabbits, pigeons, and lambs—these post-operative derangements did not occur. In the case of the rabbit, this immunity was proven to be due to the presence of accessory thyroid glands, and when these were removed, the same sequelæ were present as in the dog, etc.

Reverdin and Simon reached the conclusion that spontaneous myxedema, post-operative myxedema, and cretinism are different forms of the same degenerative process and are due to interference with, or functional loss of, the thyroid body. Schiff showed that grafting a piece of thyroid would prevent the usual symptoms following thyroidectomy, or cause them to disappear after being once apparent. This benefit was not of long duration, as the grafted thyroid rapidly lost its function and histologic structure.

Gley then stated that intravenous injections of thyroid juices prevent the morbid processes consecutive to removal of the gland. This method of treatment was followed until Howitz showed that ingestion of the thyroid gland, in the form of pills, powders, tablets, or extracts of the fresh gland, exerts the same influence over the myxedematous patients as intra-venous or subcutaneous injection of thyroid juice.

The study of the conditions following thyroidectomy and the results obtained by administration of thyroid gland in one form or another in these patients, caused this gland to be regarded as an organ with an antitoxic function. Certain investigators have demonstrated that the blood of animals whose thyroid has been removed, causes no disturbances when injected into healthy animals; but when introduced into the system of animals whose glands have just been removed, it rapidly produces convulsive affections. The toxicity of the urine is considerably increased in the operated animals. The cortical portion of the kidney is affected, being the seat of important inflammatory and degenerative lesions. It is stated that cellular changes take place in the anterior cornua as well as degeneration of the central nervous system.

Nothing certain has thus far been ascertained as to the exact nature of the thyroid poison. One authority states that the thyroid destroys toxic products of an analogous constitution to caffeine; another says it is mucine that is destroyed; still another, that it destroys an albuminoid principle which he extracted from the gland and called "thyroproteid," because when this substance is injected into an animal it produces phenomena such as are observed in strumiprive cachexia.

The therapeutic effects of thyroid gland, are the same, whether administered by injection, grafting, or ingestion, which shows that the antitoxic action is due to the secretion of some active agent, introduced into the circulation by the gland and also that the death of the animal does not destroy the active principle.

In 1893, Vermehren extracted from the thyroid a proteid substance, called by him "thyroidine," having the same therapeutic effects in myxedema as thyroid juice. In 1895, Notkin extracted a substance more toxic than his "thyroproteid," causing excitement of the nervous system. This second principle decomposes thyroproteid and destroys its toxicity. In 1895 it was discovered that heat, even ebullition, did not destroy the antitoxic action of the thyroid. Soon after this S. Fraenkel, of Vienna, isolated an active principle from the thyroid, having the same effect as thyroid juice on animals whose thyroid bodies had been removed. He called this substance "thyreoantitoxin." About this time Baumann extracted an iodized principle from the thyroid, called by him "thyroïdine," which he considered the true and only active principle of the gland. This principle contains nitrogen, a small percentage of phosphorus and about 10 per cent. of iodine. The thyroïdine is in combination with an albuminoid substance. Artificial digestion or strong acids are capable of separating the thyroïdine from the albuminoid body. The former remains insoluble, while the albuminoid is dissolved and changed into a peptone. Most of the thyroïdine is thus combined, the combination being called thyroiodalbumin. A small part is combined with a globulin and called thyro-iodo-globulin, and traces only of thyroïdine exist free in the gland.

Baumann and Roos say the thyroid is the only organ of the body containing iodine. The proportion of iodine to a given thyroid varies with the species of animal used, the individual of a given species, as well as with the diet of the animal. They also observed that there was no iodine in the thyroids of goitrous patients, and that the administration of iodine, or its use externally, increased the amount of iodine in the thyroid body.

Dr. Chassevant agrees with Baumann in his views as to this iodized principle and its state of combination in the thyroid.

Thyroid medication in its present form is not harmless and should always be prudently prescribed. It has been demonstrated that there is some danger, during its use, of death from syncope. There have been several cases of idiosyncrasy to its use, such as the production of urticaria, delirium, erythema, glycosuria, nervous affections, etc. When these phenomena are present, diminish or discontinue the use of the gland and they disappear. Overdosage of thyroid produces at times fever and tachycardia; at others emaciation, anorexia, thirst, vomiting, loose and bloody stools. Thyroid medication is indicated where there is suppression of the thyroid function, as in myxedema and goitre. It has given good results in the treatment of obesity, but should be carefully administered in these cases. Thyroid medication seems to give good results in the treatment of growth and idiocy. It has been used in many other affections, as in syphilis, exophthalmic goitre, lunacy, skin-diseases, etc., but in the latter case its efficacy is by no means assured.

Osmic Acid in Neuralgias

Dr. Franck (*Fortsch. d. Med.*, 16, 1896) recommends the injection of osmic acid into the nerve in neuralgias. He injects 1-6 to 2-3 of a grn. of osmic acid in a 1-per-cent. glycerin and water solution. M.

A Frequent, but Hardly Ever Mentioned Complication of Acute Articular Rheumatism

From thirty-five observations Dr. F. Steiner (*Arch. f. klin. Med.*, LVIII, 2, 3) has reached the conclusion that polyneuritis is a frequent complication of acute rheumatism. There may be severe pain—spontaneous or on pressure—of all the larger nerve trunks and plexuses. The pathological basis is probably an epineuritis. Therapeutically, the author employs sodium salicylate and potassium iodide, antifebrin, antipyrin and salipyrin. To prevent the tinnitus aurium which followed the long-continued administration of the salicylate and iodide, the author administers fl. ext. of ergot. In some cases—where the heart is not affected—hot baths followed by the hot pack work splendidly.

PEDIATRICS

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Distribution of Sterilized Milk

G. Variot, in *Jour. de Clin. et de Therap. Inf.*, No. 8, Feb. 25, 1897, describes the system in use at the Dispensary of Belleville for distributing sterilized milk. In Paris, a commission of scientists, physicians, veterinary surgeons, etc., has been appointed by the Municipal Council to study the question of the nourishing power of milk. The commission is now at work, and it is expected that the city will take measures to supply the city with a distribution of milk of good quality, not only to the pauper class, but also to the working class.

Most infants reared on milk other than mothers', who die in early infancy, are carried off by regular lacteal poisons. Nearly all the cases of gastro-enteritis are due to milk, changed either by adulterations or fermentations. For the reduction of this premature mortality a large distribution, at low prices, of milk of good quality for bottle-fed babies and young children is necessary. In large cities sterilization is necessary in order to exterminate all the germs before feeding. In the country it is possible to obtain milk from healthy cows and practically sterile before it has been subjected to changes attendant upon a long journey. Again, milk arriving at a city passes through so many hands that its origin is uncertain, freshness doubtful, and chances of alteration and adulteration so great that sterilization is indispensable. The commission already advises on this point, and confirms the conclusions of French and foreign physicians. The report on the advantages of sterilized milk as used in the public nursery shows its advantages in results obtained. The city of Paris furnished a "nursling settlement." Fifty artificially fed infants in the neighborhood regularly frequent this settlement, and the mothers come daily to receive the doses of milk, all prepared and sterilized, in small bottles. These infants are regularly weighed, and develop well. The dispensary of Belleville has adopted a different plan for the distribution of the sterilized milk, on account of the financial resources upon which it is able to draw. The dispensary is able to give to needy mothers the carefully sterilized milk at the price of 25 centimes per liter, and the patrons of this place are regularly followed and their development regularly noted. The question of price is extremely important if we wish to have the sterilized milk introduced into the working men's families. The ordinary milk sold at the door costs from 25 to 30 centimes per liter. It is very difficult to convince uneducated people of the necessity of giving to their children milk costing 50 or 60 centimes per liter when they can buy some at half the price which does not appear any different to them.

About forty women come regularly every morning to get the milk, which is delivered to them in bottles containing one-half liter for their children each day. After inquiry into the means of the families, a card is delivered which reads as follows: "Free Dispensary of Belleville for Sick Children. Address ——. Special consultations of nurses every Friday by Drs. ———. Name of child ———.

"Good for — bottle of sterilized milk to take in the dispensary to the dispensary from 8-10.

"Date ———

"Physician, ———.

"Note.—Every child receiving sterilized milk should be brought every Friday to the dispensary to be weighed."

This card should be presented each time to the chemist at the dispensary, who takes the empty bottles at the same time he delivers the full ones. The card is renewed every two weeks.

On Friday all the children receiving sterilized milk are brought by their mothers, are weighed exactly, and the difference in weight noted for each child. The mothers are advised to taste carefully each bottle of milk before giving it to the child. A graduated bottle is given free. The quantity of milk to be given is indicated according to the age and weight of the child.

A supply of two days is given to last over Sunday. The results at Belleville show that the children's dispensaries may be utilized as centers for distribution without the assignment of localities or specialists at the consultations of nurses. The normal development of the nurslings shows the good quality of the sterilized milk which is furnished to the working class at 30 centimes, within the reach of these people, and in no way burdens the charitable organizations in its distribution.

The manufactured milk sterilized at the place where it is freshly received is preferable to the milk transported to Paris at any time, as this is often old and tardily sterilized. Sterilization adds nothing to the quality of the milk; and indeed, if it is too much delayed, it cannot destroy the toxins alreadv produced by fermentation. This manufactured sterilized milk in one-half liter bottles, managed in the way described, proves practical in every respect. E.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Consciousness in Epilepsy

The *Alienist and Neurologist* contains the following abstract, giving the conclusions of a paper by Prof. E. Siemerling on "The Transitory Disturbances of Consciousness in Epileptics in their Forensic Relations," *Berl. klin. Woch.*, Nos. 42 and 43, 1895:

1. In the epileptic psychoses a dream-like, altered condition of the conciousness is probable, and not by any means a total or partial amnesia.
2. The most various transition forms occur between the different forms of so-called acute and chronic epileptic psychoses. Epileptic or epileptoid conditions and psychoses must alike be reckoned as symptoms of cerebral disease.
3. The transitory, dreamy states are characterized by the rapidly recurring, apparently orderly, indifferent, and inconspicuous manifestations, and by unusual, unexpected, often violent acts.
4. There are no epileptic psychoses without epileptic or epileptoid antecedents. Epileptoid conditions are more frequent than is commonly supposed, especially vertiginous attacks.
5. With the lack of epileptic or epileptoid manifestations, all other symptoms, such as amnesia, similarity of the attacks, peculiarities of actions, sensory hallucinations, will serve to make the diagnosis of epilepsy most probable. U.

Dermoid Cyst in the Brain

The Australian correspondent of the *Medical Press* gives in that paper (No. 3019) the report of a case which Tannenheim described to the Gesellschaft. He showed the specimen of a dermoid cyst, taken from a patient who came into the hospital with indefinite pains about the pelvis, which appeared to improve after a time. Without any warning he fell into a soporific condition, soon succeeded by pain in the head, which gradually increased; vomiting followed, with augmented reflex movement and congestion of the papillæ, till death occurred.

The post-mortem revealed a tense condition of the dura mater and pia mater, which was cloudy with a milky deposit in the sulci. At the root of the right opticus was found a large swelling, with the convolutions flattened, and in the left ventricle were broken-down debris of the corpus callosum.

The cause of this morbid change appeared to arise from a cystic enlargement at the chiasma, whose contents were of a soft yellow nature; the cyst appeared to be in immediate contact with the meninges. The inner aspect of the latter, about the size of a dime, was elevated, and resembled an excrescent papilla of the cutaneous surface. On examination with the microscope, hypertrophied sudatory and sebaceous cysts were present, covered with a thick layer of epidermis.

In considering the evolution of this cyst, he was confident that it did not arise from the hypophysis, as the organ was normal; neither could its origin be traced to the mouth, but it was possibly, and, he thought, probably, derived from the vertebral involution. U.

The Action of Bromides upon the Higher Brain-Centers

A debt is due to Prof. Kraepclin that pure investigations in psychological science have been made with the practical end for psychiatry in view. In his first volume on "Psychologische Arbeiter," heft 4, some practical work is done upon the bromide of sodium. Some 115 experiments were carried on, 58 with and 57 without bromide. The results obtained were somewhat contradictory, but in the main it was shown that in small doses bromides exerted an unfavorable influence upon the learning of figures, but that the learning of nonsense rhymes was facilitated. It was also shown that while the learning of figures was retarded, that if outside detracting of the attention was attempted, the bromides seemed to destroy the effect of attention-dispersion. In short, it would appear that the bromide helped the brain in its attempts to learn, when such effort in a normal condition was attended with psychical discomfort.

A further study is given in the same journal of the effect of alcohol on practical work. The experiments were made upon four type-setters. Alcohol was given in the form of a Greek wine containing from 15 to 18 per cent. of alcohol, on alternate days, and with a single exception the work obtained was worse, and often markedly worse when done under alcoholic influence.

Locomotor Ataxy Treated by Stretching of the Spinal Cord

In collaboration with Dr. Chipault, Dr. Gilles de la Tourette has treated locomotor ataxy by stretching of the spinal cord. Dr. G. makes a communication on the subject to the Paris Academy of Medicine (*Medical Week*, Vol. V, No. 17). This stretching is obtained, not by suspension, but by flexion of the vertebral column, the patient sitting down with the legs stretched out. Of forty-seven patients at the second stage of the disease, who were treated by this method, there was general improvement in all the symptoms in twenty-two, or nearly one-half; in fifteen there was similar, but more restricted improvement, limited to some of the symptoms only; the remaining ten derived no benefit whatever from flexure of the vetebral column. The sittings in each case were never less than fifteen or twenty in number, one every other day, lasting from five to eight minutes. B.

Treatment by Suggestion, with and without Hypnosis

John F. Woods, in the *Jour. of Mental Science*, No. 145, reports the results obtained by him with suggestion with and without hypnosis. Cases of chronic alcoholism, neuralgia, headache, gout, dyspepsia, rheumatoid arthritis (in which cases manipulation was coupled with suggestion), chorea, insomnia, writers' cramp, delirium tremens, nocturnal incontinence and stupor were, in some instances, cured, and improvement resulted frequently, while occasionally no improvement was noted.

A number of epileptics were markedly improved, as were two cases of tabes dorsalis, two of masturbation and one of hysteria.

Dr. Wood's report is interesting in the extreme, furnishing as it does data which must dispel, to some extent at least, the skepticism which pervades the minds of the medical profession regarding the therapeutic value of suggestion. We have yet to see in this country results such as are claimed abroad and investigations along these lines are to be encouraged. U.

A New Method for Localizing Brain Lesions

The method alluded to, according to its author, Robert H. Cox, F. R. C. S. I., (*Brit. Med. Jour.*, April 3, 1897), supplies a simple and infallible means of mapping out on the scalp the positions of any (or all) of the underlying convolutions of the cerebral cortex, a result accomplished, with the "cerebro-graphometer" and its chart, almost automatically.

The cerebro-graphometer consists entirely of the mechanical device known technically as "lazy-tongs," formed into a circle with two accessory loops, one bearing the numerals and the other the letters A to V.

The chart shows, on a gnomonic projection, the boundaries of the lobes and convolution of a cerebral hemisphere, with the lines of latitude and longitude corresponding to the numbers and letters of the instrument (Fig. 1).

Localizing is performed as follows: Extend the instrument and apply the end of the lettered loop, marked V, to the occipital protuberance and the other end to the glabella, then press down the loop to the scalp in the middle line and close the circle around the head, so that the 10 on the numbered loop will lie on the lettered loop. Consult the chart for the bearings, and place the number 10 on the letter of longitude, when the number of latitude will rest over the part sought for. Fig. 2 shows the instrument in position for localizing; also the convolutions mapped out.

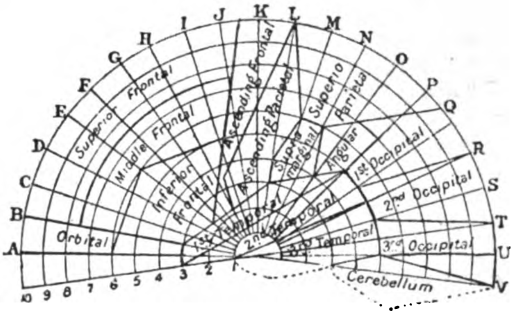


Fig. 1.—A diagrammatic map (on a gnomonic projection) of the external surface of a hemisphere of the brain, showing the boundaries of the lobes and convolutions, and the lines of latitude and longitude corresponding to the engraved rivets of the instrument.

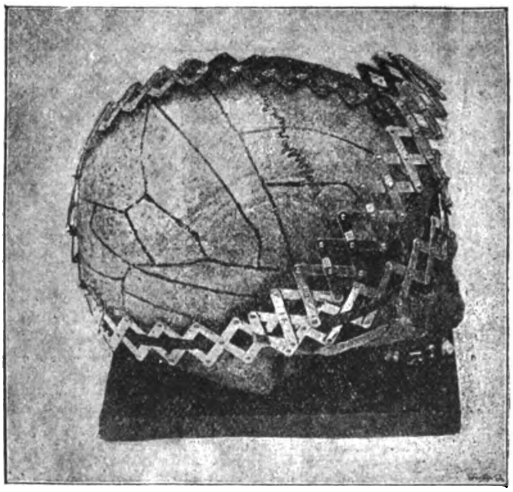


Fig. 2.—The same projected on the right side of the skull; also shows the instrument in position for localizing.

The instrument is equally applicable to heads of all sizes and forms its own unit of measurement for each, thus eliminating the errors caused by using standard measures for varying surfaces. It is compact, light, durable, and may be rendered aseptic by boiling. B.

SURGERY

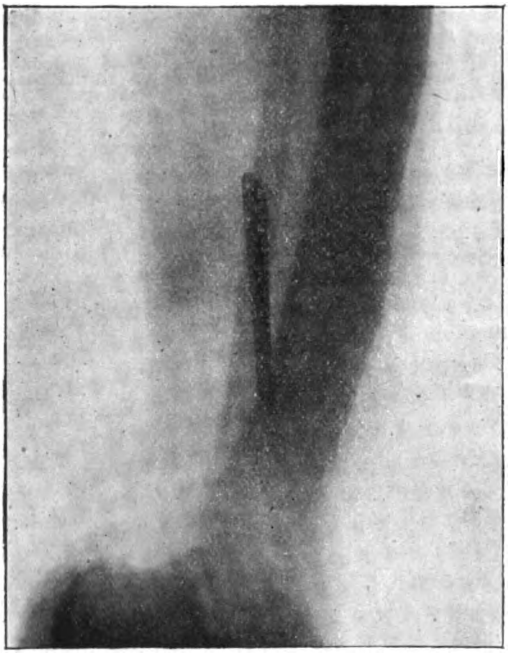
WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D.,
DAVID M. STABLER, M D.

Unreliable X-Rays

In a communication to the AMERICAN MEDICO-SURGICAL BULLETIN, Dr. George Everson, of Brooklyn, cites the following case, that is of unusually great interest from a medico-legal standpoint:

Lillie B., age 14 years, diathesis syphilitic, was taken to a reliable x-ray studio by her father for a skiagraph of the left leg, previous to operation on June 3d. The skiagraph shows at the middle and lower end of the shaft of the tibia exostoses. The lower end of the tibia is more translucent, and extending to the fibula from below upward and backward is a straight foreign body. At the operation five days latter an incision from just above the ankle-joint to the tibial tubercle exposed two eburnations, one at the middle of the shaft and one at the lower third, numerous osteophites which do not show in the skiagraph and the tibial articular end in formation ostitis, but on diligent search, no foreign body. The young lady and her father both insist that they do not know of anything having been in her stocking, the x-ray people assure me. They can offer no explanation and plead ignorance. The night previous to operation she was sent to the studio for fluoroscope marking with indelible pencil. The morning of the operation the skiagrapher presented himself at the time set for professional gathering, and said he could find nothing to guide him, and that he had taken another picture, but without results. This experience teaches the necessity of strict general scrutiny and personal reliability. In this case, fortunately, the disease warranted the operation.

A.



Gunshot Wound in the Abdomen; Recovery Without Operation

A case of this kind is reported by Dr. J. H. Seiler, of Akron, O., occurring in a man, 30 years of age, who was shot in the abdomen with a 32-calibre revolver bullet while engaged in a quarrel. The bullet had entered at a point about two inches to the left of median line and about one inch below the ribs. There was very little external hemorrhage, and no wound of exit could be found. On probing it was found that the bullet took a course downward and backward and to the right, lodging evidently somewhere near the right of the sacrum. The patient had some irritability of the bladder, lasting eight hours. The wound was dressed with iodoform gauze and cotton.

During his whole illness the patient did not suffer from shock. Slight peritonitis followed the accident, from both of which a rapid recovery took place, without resorting to surgical intervention.

B.

Celiotomy in Non-Traumatic Perforations of the Intestines.

Dr. A. F. Bock considered this subject in a paper read at a recent meeting of the St. Louis Medical Society.

The indications and limitations of celiotomy for non-traumatic perforations of the intestines have not up to the present time been fully determined. Non-traumatic perforations which may call for celiotomy are: Perforating typhoid ulcer, perforating stercoral ulcer, perforating duodenal ulcer, perforating tuberculous ulcer. The typhoid are the most common variety of perforations; up to the present time there have been about forty-seven operations reported, with thirteen recoveries. The indications for celiotomy in perforating typhoid ulcer are mainly sudden and acute and continued pain in the abdomen, associated with nausea and vomiting, and followed by shock and collapse, general peritonitis and suppuration. An abrupt fall of the temperature in typhoid fever, even below normal, and remaining so, indicates perforation of the bowels. Systematic examinations of the blood of typhoid-fever patients will show no increase in the number of leucocytes at the onset of the disease, but rather a decrease reaching its lowest point about the end of the febrile period. As soon as inflammatory complications develop a marked increase of leucocytes will be observed, and this increase does not take place under any other known condition, and is considered a very important diagnostic sign of perforation. The only contra-indication to celiotomy in perforating typhoid ulcer is a moribund condition of the patient. As recovery in cases of local peritonitis complicating typhoid fever is not uncommon, celiotomy should not be resorted to in these cases. Should an abscess form, incision and drainage is sufficient. The other variety of perforations above-mentioned is of rare occurrence. The indications for celiotomy would be general septic peritonitis. The peritoneal cavity in general septic peritonitis is the same as an abscess-cavity, and should be treated as such. B.

Ambulant Treatment of Fractures of the Leg.

Dr. C. Walther, in the *Revue d'Orthopédie* (No. 1, pp. 58-79, 1897), devotes twenty-one pages to critical study of the methods which have been tried by German orthopedic surgeons to secure the use of the legs standing and walking during the process of healing in fracture. In the first place, he takes exception to the term "ambulant treatment" as being too droll for the serious thing to which it is applied, and suggests "treatment by action" as contrasted with "treatment by rest." The question is, Is it possible to enable one to walk *usefully* who has an ununited fracture of the leg or thigh? by *usefully* meaning resumption of work, sitting or standing. The apparatus must be so arranged as to take from the lower segment, below the solution of continuity, the pressure from the weight of the body.

The apparatus used by Korsch and Bardeleben was first applied to fractures of the malleoli and leg, and afterward to osteotomies and resections. The principle on which they were employed was that of continuous extension, first made actively whilst putting on the plaster bandage, second passively continued by the apparatus. The writer, in the *Revue de Chirurgie*, 1885, had shown that continuous extension could not be exercised except by elastic bodies, or by the action of a weight; by any other means it is intermittent or illusory. Bruns' orthopedic apparatus is the one most widely known; it consists of a plaster bandage, to which are attached two hollow tubes fastened above at the root of the thigh to a padded metallic ring, taking its point of support at the ischium. Below, a stirrup fixed two or three centimeters below the plaster surface of the foot, maintains the foot above the ground while standing. It differs from Liermann's by being jointed at the knee.

Bardeleben enumerates the following claims for this new therapeutic agent: It would prevent the formation of scars, antagonize atrophy of the muscles, hasten formation of the definitive callus, keep the organism in good physiological condition, and give great help to the aged, to alcoholics, and to all with debilitated constitution.

1. All kinds of apparatus, however delicately applied, can produce scars by pressure on the point of support, or by some disturbance of nutrition from other cause. If this is so when the patient keeps his bed, the limb is immobile and nutrition is least disturbed, how impossible to avoid it when the limb is down and circulation and innervation are interfered with by pressure much more considerable!

2. The pressure inward on the tissues by the padded ring and outward by the consequent edema, interfering with circulation, will more than neutralize the good effects of muscular action; besides action itself is refused, if it cannot take place without suffering.

3. The definitive callus is formed only after five or six months, when the apparatus has already been taken away. Whatever increased nutritive gain to the fragments there might be in the increased activity would be counterbalanced by the more frequent displacement of the contiguous ends of the fragments, this being known to be the most fruitful source of fibro-cartilaginous union—thus postponing indefinitely the definitive callus.

4. The restraints within doors are about the same, because the treatment does not admit of resuming the usual employment.

5. Alcoholics suffer from delirium tremens too soon after the accident to be benefited by the apparatus, which is not applied till between the eighth and fifteenth days.

The points of support on the thighs must be the skin, the muscles and the bones.

The skin, in its intolerance to continued pressure, in its elasticity, and in its mobility over the subjacent parts coated with the secretion of its numberless glands, would never be anything but an uncertain and intolerant point of support. The appliances to its wrinkling surface would cause suffering, phlyctenulæ, excoriations and scars.

In the leg the gastrocnemius is the only support for an apparatus applied to the muscular tissue. If it is utilized its skin covering must participate, the muscle will atrophy, and, at best, the force will be applied at the point of insertion of the tendo Achillis in the calcaneum so as to exert pressure upward on the lower segment of the fracture—the very thing sought to be avoided.

As to the bony supports.—The first indication is to maintain the foot above the ground by means of protectors embodied in the plaster bandage. The second is to find, above the solution of continuity, points of solid support on the bones of the leg or pelvis. There are only the tuberosities of the tibia in the leg. The condyles of the femur project too far for the tibial region; and it is out of the question to employ the patella because of its mobility. Besides, the skin would be intolerant of an apparatus applied over such sharp angles as those of the tuberosities of the tibia. The ischia offer better support when the fracture is above the knee, being solid, protected by a thick pad of cellulo-fibrous tissue imbedded in fat, which lessens shock and pain from pressure. But, with all this favorable, the most delicate skill in application would be needed, as well as the most expensive materials, to utilize this point of support successfully; and there would still remain the danger of ankylosis of three large joints, besides the risks to be taken in interference with circulation, to edema, scars, etc.

The author believes that few, except transverse fractures of the leg, could be benefited by the "ambulant treatment." In the aged, in children, in most women and in fat, over-muscular or too feeble men, it would be contraindicated, or impossible. He sees in this method no real advantages as to definite results; he thinks it impracticable; for, to apply suitable apparatus, exceptional skill would be needed to secure proper traction on the parts and permit use of the limb in walking. Besides, the cost would bar it from those most to be benefited by it.

His legitimate conclusion is: "To hope to enable those with fractured femur or tibia to walk *usefully* before consolidation, is at present a beautiful dream whose future, however desirable, cannot yet be foreseen." U.

Silver as an Antiseptic, from a Surgical and Therapeutic Viewpoint

Dr. Rieffel, in *Rev. de Chir.* (No. 1, p. 50, Jan. 10, 1897), gives some account of Credé's (of Dresden) contribution to the transactions of the twenty-fifth Congress of the German Surgical Society on this subject.—*Centralb. f. Chirurg.* (No. 31, 1896). Credé, accepting silver as a powerful antiseptic on the authority of Behring, Koch, Miller, etc., made use of gauze impregnated with silver solution only to find that, when the wounds were very infectious and secreted freely, the silver soon disappeared and the sterilizing action ceased. The silver was attacked by chemicals formed in the tissues, e. g., lactic acid which, uniting with it, formed a soluble lactate of higher germicide power. But, this lactate (actol of commerce), in contact with wounds, very often irritated them and caused intolerable pain, due to its great solubility (1 in 15). After trials, Credé settled upon the citrate (itrol) which up to the present has given excellent results. It is soluble in 3800 parts of water, is colorless, inodorless, non-irritating, non-toxic, easily pulverizable, and keeps well. Its antiseptic value is equal to that of lactate of silver.

Either an old or a recent wound is powdered with the itrol, and dressed with itrol gauze to remain undisturbed for eight days if needed, with absolutely no reaction and with a minimum of secretion. Finally he insists, on the incontestable value of hypodermic injections of actol in acute infections and especially in erysipelas.

Lauenstein (Hamburg) confirmed Credé's claims, and valued them the more because of their clinical proving. He had employed sutures impregnated with silver, and no longer found suppurations at the point of the sutures. He also disinfects the skin with silver before operation. In 147 cases in spite of the presence of the white staphylococcus, primary union was possible in the majority of cases.

Kölliker (of Leipzig) lauds iodoform, combined with a derivative of formaldehyd, because sterilizable at 140° C., inodorous and non-irritating. U.

Sterilization of Catgut

Hofmeister (Tubingen) contributed to the twenty-fifth Congress of the German Surgical Society the following method of obtaining a catgut at once sterile and solid, as given by Dr. Rieffel in the *Rev. de Chir.* (No. 1, p. 51, 1897). The raw catgut is rolled in a single layer on strong glass plates or nickel frames stretched as much as possible and the ends tied. For twelve to forty-eight hours it is kept in a 2- to 4-per-cent. formalin solution; it is then washed in running water for at least twelve hours to take away the excess of formalin; it is then boiled for from five to twenty minutes and finally kept in absolute alcohol containing 5 per cent. glycerin and 4 per cent. carbolic acid (or 1 per cent. bichloride). H.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N. Hoople, M.D.,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Influence of Nasal Disease in Modifying the Quantity and Axis of Corneal Astigmatism

Dr. Louis J. Lauterbach (*Ophthalmic Record*, March, 1897), attempts to prove the relation between nasal disease and astigmatism. The Doctor has discovered that in the majority of cases of astigmatism with the rule, the axis of least refraction, when not vertical, is oftener to the outer than the inner side of this axis, namely, between 45° and 90° in the right eye, and between 135° and 90° for the left eye.

All these cases present catarrhal disease of the nasal fossæ.

When the axis is outside of 90°, there are almost invariably found thickenings, hypertrophies and polypi; when within the vertical line atrophic conditions are found and normal fossæ are not uncommon.

The writer has found that a thorough treatment of the nasal conditions has led to a change of axis toward the vertical, and the patient's eye symptoms have correspondingly improved.

The author believes that many cases of so-called chronic glass-changers are simply cases of varying astigmatic changes caused by nasal disease. The explanation of these axial changes the writer believes to be due to the intimate relationship existing between the eye and the nasal fossæ through the nerves and blood-supply.

K.

Aphonia and Deafness of Hysterical Origin

Trifiletti, in the Dublin *Medical Journal* (Charlotte *Med. Jour.*, Jan., 1897), gives an account of a case in a female servant, 18 years old, of good constitution, who had always been in good health and had never had any nervous trouble, the same being the case with the other members of her family. For some time she had menstruated with irregularity, scanty flow, accompanied by pain in the left ovarian region and the back, as well as by frontal headache. The aphonia dated back fifteen days, and begun at the period of menstruation, following an emotional shock. A laryngological examination disclosed bilateral symmetrical paralysis of the adductors of the vocal cords, which in no way corresponded with the degree of aphonia, and was probably referable to hysteria. Chronic rhinitis with secondary pharyngitis and hypertrophy of the tonsils were noted. After some agreeable surprise the voice returned, but at the same time the hearing was abolished. The patient also complained of buzzing in the left ear, and of a sense of weight at the top of the head, the neck, and the left ovarian region. The clinical characteristics of hysterical deafness were present. Otoscopic examination revealed nothing abnormal save a slight opacity and retraction of the tympanic membrane in both ears.

The hearing became normal spontaneously and remained so. B.

Retinal Detachment Recovering Spontaneously

Dr. Lawford Knaggs, in a paper read before the Ophthal. Soc. of the United Kingdom (*Brit. Med. Jour.*, Feb. 6, 1897), cites the case of a woman aged 21, who was shot in the right temple on May 21, 1892. The bullet passed below the right orbit and lodged in the floor of the left antrum. The wound healed quickly. Attention was drawn to the right eye by the patient's complaints of inability to see things in certain positions of the field. Two choroidal ruptures near, and edema around, the macula, and several large hemorrhages were seen on the 22d, and from that date till the early part of July an acute attack of central choroiditis, with much effusion, was observed in its various stages. At the latter date a large mass of white lymph occupied the vicinity of the macula, and was surrounded by a broad frame of pigment, over which several vessels curled, to be buried beneath the mass of lymph. On July 27 a detachment of the retina had formed. The top of the detachment formed a ridge, which ran horizontally backwards till it merged in a track, which disappeared beneath the inflammatory mass overlying the macula. The front of the detachment probably reached to the ora serrata. The field showed scotomata corresponding exactly to the central mass and the detachment. The patient was not seen again till November 28, 1893, when the detachment was found to have disappeared completely, and the reapplied retina to be quite normal in appearance. The central mass had become more triangular in shape, but the track which had led to the detachment was still visible. The scotoma caused by the detachment had gone, and that dependent on the central disturbance had slightly contracted. Central vision was destroyed. The condition was unchanged some time later. There could be no doubt that the detachment was produced by exudation gravitating after expression from the central mass of inflammatory tissue, or possibly from a concentrated detachment behind it. Detachments of the retina were divisible into three groups: (1) Those occurring in fairly healthy eyes as a result of concussion in some form, as in coughing, blows. (2) Those where it is the direct result of inflammatory effusion dependent on severe traumatism or on some organic disease. (3) Those met with in eyes which are the subject of some chronic disease, such as myopia, where degeneration as well as inflammatory changes may share in the production. In groups 1 and 2 spontaneous recovery was more probable and surgical treatment more hopeful (in suitable cases) than in group 3. B.

Closing Old Drum-Perforations

La Pratique médicale (Jan. 1, 1897, Vol. XI, No. 1, p. 5) refers to Dr. Gomperz's experience with Okuneff's method, cauterizing the edges of the perforation with trichloracetic acid. Of six cases, four perforations were cicatrized after a few applications of the caustic; in six other cases the perforation was greatly diminished.

Ten-per-cent. solution of cocaine was first used, and then the acid was borne in to the edges on cotton at the end of a fine probe. The treatment is painful, but is well borne. Naturally, it need not be used except when an artificial tympanum succeeds only in making the hearing worse. The appearance of the membrane after the cicatrization is particularly interesting. In the place of the opening a firm greyish membrane is seen, shading into the original portion without definite outline, which proves that the proper tympanic membrane is renewed during the cicatrization, as the author had previously established. He does not consider this action peculiar to trichloracetic acid. In one of the six cases, all too recent to have final results, the subjective noises which troubled the patient for two years have disappeared. H.

Visibility of the Superior Turbinated in Unatrophied Nasal Fossæ

Frivas sums up in *Rev. hebd. de Laryng. d'Otol.* (No. 3, p. 87, 1897) the results of Dr. Bergeat's researches on macerated skulls as to the non-visibility of the superior turbinated in normal nasal cavities, from *Monats. f. Ohrenheilk* (June, 1896):

1. The superior turbinated is normally much more visible on the right side;

2. French craniums, at least judging by those found in the museum at Munich, present this phenomenon in the highest degree;

3. In all cases of visibility of the superior turbinated it is filled with numerous large ethmoidal cells. According to the number and size of these, the superior turbinated appears sometimes as a cushion and sometimes merely as a line. Occasionally a part of the superior meatus is visible. At other times the superior turbinated, while visible, is difficult to distinguish from the middle, with which it is seemingly fused.

General characteristics: Nearly all skulls with visible superior turbinated are dolichocephalous and the basilary apophysis of the occipital has a horizontal direction. The vault of the palate is broad and flat, the form of the jaws semicircular and the middle of the nose prominent. Within the nose there is always a wide passage between the septum and the nasal apophysis of the superior maxillary; but that between the anterior edge of the middle turbinated and the anterior end of the superior meatus is narrow. As a mechanical condition, the author thus explains: "The superior maxilla as a whole is compressed forward because of excessive development of its alveolar border. To secure its contact with the orbit, the thin layer of the ethmoid is likewise obliged to push itself outward, so that the frontal portion of the ethmoid from being square becomes rhomboidal. H.

Note on the Use and Non-Use of the Occlusive Bandage in Cases of Heterophoria

Dr. F. W. Marlow (*Ophthalmic Record*) reports some cases illustrating the use of the bandage in bringing out heterophorias.

The wearing of a bandage, the writer says, for some injury to the eye, or some affection which temporarily prevents binocular vision, not unfrequently precedes the onset of convergent strabismus. A considerable increase in the degree of the heterophoria is sometimes observed when a bandage has been worn for a day or two subsequently to operation.

From the facts the writer believes that the total exclusion of one eye from vision for a short period will in many cases render manifest any latent heterophoria present From the cases reported, the writer seems to be a follower of Dr. Stevens, in that he looks for the latent hyperphories, and first corrects these conditions before attacking in the old orthodox way, the external or internal recti. This is certainly a move in the right direction, and with the aid of a Stevens stropometer the author will find that it is also possible to determine the exact muscle at fault, whether the superior or inferior rectus, or both.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D , HOMER E. FRASER, M.D.

Action of the Röentgen Rays Upon the Normal Skin and Hair-Follicles

According to the *Amer. Jour. of the Med. Sci.*, Dr. A. Forster (*Deut. med. Woch.*, 1897, No. 7, S. 105) has reached the following conclusions:

(1) One to two hours' use of the ordinary tube does not give rise to any dermatitis; (2) the same statement can be made as to short exposure with the best focus-tubes; (3) a single half-hour exposure gives no untoward results, but from similar repeated exposures there seems to be a cumulative action; (4) in some individuals there is an action analogous to that of sunburn, and in addition a falling out of the hair. Should it be ascertained that the hair does not grow again, we would have a very simple method of depilation.

B.

Dermatitis Exfoliativa

Dr. Soulagues, in the *Nouv. Montp. Méd.*, reports a case following the grippe. The entire epidermis and the nails came off, the hair and the eyebrows fell out, and the itching was unbearable. Within six months the entire epidermis came off five times, but each time the attack was milder. Prolonged bran-baths and a milk-diet proved useful.

M.

Gonorrhea Treated with Ichthyol Irrigations

Dr. Werner (*Lancet*, No. 3843, p. 1166) has used a 1-per-cent. ichthyol solution by urethral irrigation in 82 cases of gonorrhea. In 20 of these the disease was confined to the anterior portion of the urethra, and had lasted for from a week to two months before the beginning of the treatment. Absolute cure was obtained in 19 cases with from 6 to 35 sittings (average 17). In 62 cases the posterior part of the urethra was also affected, and of these a cure was obtained in only 52, the number of sittings required being from 2 to 40 (average 19). The single unsuccessful case of anterior urethritis was one of a month's duration. Here, however, the gonococci disappeared after 28 douches. Of the 9 cases where the cure was not obtained, some left the hospital against advice before a cure could be affected, and in some epididymitis supervened, which obliged the douches to be discontinued. In three of them, however, the gonococci had entirely disappeared after from 3 to 28 douches.

Several cases of gonorrheal cystitis, some of them with pyrexia and severe tenesmus, were very successfully treated by ichthyol douches, but in some others no effect was produced.

A number of cases were treated by means of douches of resorcin of the strength of 1 per cent. applied similarly to the ichthyol irrigations, but with very much less satisfactory results.

As evidence of absolute cure Dr. Werner adduces the following facts: (1) After twenty-four hours' cessation from treatment no visible discharge is present; (2) the urine, when poured from one vessel into another, is free from threads, and (3) no gonococci can be detected in the last gonorrheal threads found.

F.

Cutaneous Tuberculosis by Auto-Infection

Several cases have come under Dr. K. Ullmann's observation of tuberculosis of the skin (*Medical Week*, Vol. V, No. 20), due to infection by the tuberculous expectoration either of patients themselves or persons in contact with them. In one of these cases, in which there were cavities at both apices, the little finger of the left hand was the seat of a typical anatomical tubercle.

In another person, also suffering from pulmonary phthisis, there developed on the left forefinger an anatomical tubercle, transformed within three years into a scrofular gumma, which became the source of several bacillary foci on the forearm and arm, as the result of nodular lymphangitis.

A third patient, in whom the lungs were entirely free from any tubercular affection, presented on the finger a lupous lesion. This man had probably been infected by the expectoration of his sister, who was consumptive and had been under his care continuously until she died. In this case, the initial lesion was the starting point for those subcutaneous tubercular foci on the dorsal aspect of the forearm, which ultimately ulcerated and took on the appearance of lupus vulgaris.

In a fourth patient, with a tubercular ulcer of the larynx, there was a scrofulous lymphoma on the neck. This tumor having broken down, verrucose lupus developed around the fistula.

Lastly, the author has met several cases of tubercular ulceration of the lobule of the nose, as well as of the cheek, in tuberculous patients.

These facts show, on one hand, that the expectorations of tuberculous subjects may be dangerous to the patients themselves, and on the other hand, that any and all tubercular lesions of the skin should be subjected to a radical treatment by operative measures, in order to prevent them from extending. B.

Ointment for Impetiginous Syphilides of the Scalp

Dr. L. Phillips gives the following formula (*Medical Week*, Vol. V, No. 20) to be used in the above affection:

Red Oxide of Mercury Zinc Oxide...	āā 1 gme. 50 ctg.
Resorcin........	60 ctg.
Vaselin	30 gme.

Mix. For external use.

B.

A Case of Lupus Erythematosus Following Tattooing

In the *Indian Lancet*, March, 1897, Dr. Lawrence C. Fink reports the history of an exceedingly interesting and novel case of lupus erythematosus. The patient was a native of Shan (India), aged about 23. He gave no history of syphilis nor leprosy. Thirteen months before he had been tattooed on the flexor aspects of his right forearm. The tattooed area eventually ulcerated.

Two months later an erythematous patch formed on the right cheek, which gradually spread nearly over the whole face. On admission to the hospital the patient presented the following: There was a butterfly-shaped erythematous patch on the face, the outlines of which were sharply defined. Scattered over the patch there were a number of pigmented spots, and on the tattooed arm there was a similar erythematous patch, as also on the chest, left shoulder and arm. The subjective symptoms were itching and slight burning. The patient presented no signs of ill health. The diagnosis of erythematous lupus was made by bacteriological examination of the skin. S.

Treatment of Short Frenum Preputii

Dr. E. Loumeare (*Medical Week*, Vol. V, No. 20) treats this affection in a very simple and practical manner by section with the thermocautery after anesthetizing the part with cocaine.

For this purpose he injects under the foreskin a syringeful of a 2-per-cent. solution of cocaine. Five minutes later, when the anesthesia is effected, he begins the operation proper. The region of the frenum is kept tense with two fingers of the left hand, one on the glans penis, the other on the body of the organ, the frenum is then divided with the red-hot thermocautery from its apex down to its root, all along the glans. In this way the artery of the frenum is only reached at its terminal portion, and the wound remains perfectly bloodless, hemostasis being secured by the heat of the thermocautery. When the operation is over the wound is dressed with a little boric-acid ointment, with salol, or aristol, and the glans is again covered by the foreskin, which is pulled forward: a small pellet of absorbent cotton may be inserted between the glans and the foreskin, if desired. The wound is dressed morning and evening, and washed with warm boric-acid water. Immediately after the operation the patient may, if he likes, resume his ordinary occupation, taking care only to keep the penis up against the abdomen so as to avoid all edematous swelling. Cicatrization is completed by the tenth day, as a rule, and coitus is again possible in about a fortnight. In a few rare cases there is a little oozing of blood when the crust drops off, but this never constitutes an accident of any importance. B.

Hydrocele—Treatment of

Dr. Moir (*The Practitioner*, Vol. LVIII, Nov., 1897) believes that in the radical cure of hydrocele the aim should be complete obliteration of the sac. This is obtained with greater certainty by the methods of incision or excision. In the latter the object is attained by the adhesion of the two layers of the tunica vaginalis, and not by restoring the equilibrium between the functions of secretion and absorption; but the tunica vaginalis behaves in a capricious manner when subjected to the injection of irritant fluids, and one is never sure what will be the degree of pain inflicted, or as to the extent of the inflammatory reaction. Moreover, in many cases the adhesions are only partial or non-existent, and in some the secretion and inflammatory exudation after injection are in excess of the original condition, and this fluid is not absorbed. Incision or excision, combined with drainage and packing of the cavity, aim at obliteration of the cavity by the growth of granulation tissue; the amount of inflammatory reaction is trifling, and can be better controlled. Also the actual condition of the testis, epididymis, and cord can be ascertained with greater accuracy. The chief objection to the method is that the after treatment is often painful, owing to the removal of the lint or gauze packing, which becomes adherent to the interior of the cavity. Also the repacking may not be thoroughly done, and some pocket or crevice may escape and become the starting place of another hydrocele. O.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

Birth-Palsy

Dr. D. McDonnell considered this subject in a paper read before the Ulster Medical Society (*Brit. Med. Jour.*, Feb. 20, 1897), defining the condition as paralysis caused by events taking place during or prior to delivery. The proximate cause was usually cerebral hemorrhage, and the chief predisposing causes were: (1) The delicate structure of the blood-vessels in the infantile brain; (2) hypervenous conditions of the blood; and (3) diseases of the vascular walls, especially syphilis. The principal exciting causes were trauma of the mother during gestation, and prolonged or difficult labor. The symptoms were, arrested mental development, various forms of paralysis (hemiplegia, paraplegia, diplegia spastica, etc.), and morbid movements, such as choreiform, athetoid, associated, and polymyoclonic. B.

Dysmenorrhea

Drs. Gardner and Lockhart, in the *Montreal Med. Jour.*, Vol. XXV, pp. 681-96, discuss respectively the symptoms and treatment of this disease, which is classified as (1) neuralgic, (2) congestive, (3) obstructive, (4) membranous, (5) ovarian.

1. This is frequent in young subjects, lasting often until middle age. Marriage is in many cases sterile, and is followed by diminished pain, but complex conditions arise from changes in the uterus and appendages. Pregnancy relieves or cures. An examination reveals nothing abnormal. There is sometimes defective development in one or all parts. Anteflection is not necessarily the cause of pain. Pain comes with the advent of the flow, and lasts from twelve to thirty-six hours, sometimes associated with vomiting, general nerve-disturbance, hysterical signs, and temporary insanity. All pelvic symptoms are absent between these periods.

2. Here pain is a symptom of acute or chronic inflammation. It persists throughout the period, and is caused by chill, infection, examinations, tuberculosis, neoplasms, myoma, or fibroma. On the elicitation of symptoms differing from No. 1, an examination is imperative.

3. In this class diagnosis is made by precedence of pain to flow; paroxysmal character, and at the acme of the paroxysm is suddenly relieved by gush of blood, fluid and clotted. At first pelvic symptoms are obsent between the epochs. Later the symptoms found in inflammatory processes appear.

4. This is rare. A cast of the entire cavity is shed, whole or in pieces. The pain is intense and the flow is profuse, with leucorrhea for a few days.

5. The cases of enlarged, tender, or prolapsed ovaries are few. Menstrual pain arises from irritation of the nerve-ends in the uterus and its appendages. The cause of this is the congestion preceding and attending the proliferative processes. This is markedly true in the neuralgic form. It is a question of relative sensibility in the obstructive and membranous forms, in which it is mechanical. For the establishment of diagnosis, examination under anesthesia is best.

In an acute attack, for immediate relief morphia should be given hypodermically, heat applied to the hypogastrium, and 10 grns. antipyrin or phenacetin, repeated twice hourly. Alcohol acts magically. The preventive measures include: Near puberty, relief from all forms of excessive work; open-air life and exercise, short of fatigue; previous to and during menstruation, rest; regular hours; simple and nourishing diet.

For neurotics are recommended open-air exercise, change, occupation, tonic of arsenic, valerianate of zinc, and nux vomica. For chlorosis add iron tonics, Blaud's pills, with arsenic, and syr. hypophos. co., and regulate the bowels.

An examination should be made if the above course results unsatisfactorily. Galvanism is indicated for maldevelopment, and the use of the bicycle. In congestive or inflammatory cases, remove the cause, e. g., submucous fibroid, curette the endometrium, gradually dilate, and apply iodized phenol or pure carbolic acid to the interior of the uterus for removal of diseased tissue. Correct malposition and maintain correction; soften adhesions by hot douches and glycerin tampons; apply iodine to the vaginal fornices; fit with proper pessary; deplete the uterus and the whole pelvic cavity; restore vessels; lessen the flow of blood through the uterus by ergot, hydrastis, viscum album, quinine; excite the activity of the bowels by salines for a few days. For the membranous form, which is rare and difficult to cure, are indicated cauterization of the interior of the cavity with positive electrode, curettage, and the stem pessary. For spasmodic forms of dysmenorrhea, antispasmodics should be given before the period approaches; in anemic cases, iron, ammonium, potassium, and sodium bromides in combination nightly for one week, midway between two periods; then 5 grns. antipyrin hourly for six doses as soon as pains begin. Hot hip-baths increase a scanty flow. Cannabis indica is beneficial in menorrhagia, and also nitro-glycerin, amyl nitrite, and viburnum. Stenosis is relieved by dilation, or electrolysis with bulbous-pointed electrode. J.

When Shall We Use the Forceps?

Wm. E. Parke (*Am. Gyn. and Obstr. Jr.*, Feb., 1897) in a practical paper relating to the above question presents the following summary:

1. The indication for the use of the forceps rarely arises during the first stage of labor, before the membranes have been ruptured.
2. It may be necessary to employ the forceps during the first stage, when the waters have escaped, on account of the increasing exhaustion of the mother or child.
3. It is proper to apply the forceps during the first stage of labor for accidents, whenever they may arise, notably in certain cases of convulsions, placenta previa and prolapse of the cord.
4. In the second stage it is proper to apply the forceps one half-hour after the head ceases to advance, when there is no disproportion between the passage and passenger.
5. When, however, there is a tight fit between the child and the birth-canal, the use of the forceps may be delayed. This delay should rarely exceed two hours after the head ceases to advance.
6. If the head is engaged, and neither advances with a pain nor recedes after the pain, the forceps should be applied promptly.

Paget's Disease of the Nipple Followed by Cancer of the Breast

Dr. W. W. Keen (*Dunglison's College and Clinical Rec.* Feb.) reports a case of the above, the patient, aged 62, giving a history of at first a small crust at the apex of the left nipple, the underlying tissue gradually ulcerating and exuding a viscid discharge, accompanied by a burning pain. Six months after its appearance lancinating pains developed in the breast, the nipple about this time sloughing off entirely. Subsequent examination showed a slightly nodulated tumor, dense in structure, a fissure replacing the nipple. The glands in the axilla were indistinctly felt. The above diagnosis was arrived at, the microscope verifying the diagnosis subsequent to surgical interference. The operation known as Halstead's was performed, the breast, the pectoralis major and minor muscles, and the contents of the axilla, except the blood-vessels and nerves, being removed in one piece.

The author states that one should be watchful and suspicious of a case giving a history of chronic eczema of the nipple occurring after forty years of age, or subsequent to the menopause; such cases not infrequently ulcerate and refuse to heal, because of the condition being one of epithelioma of the nipple, which in many instances, is the precursor of cancerous disease of the entire breast.

Syphilis as a Cause of Abortion

Dr. J. A. Ouimet, in an article on this subject (*La Clinique*, III, No. 5, pp. 182-194), draws the following conclusions:

1. Syphilis is a powerful cause of abortion. The abortion is due to lesion of the fetus itself or of its appendages.
2. It occurs usually toward the seventh month. The father alone, being syphilitic, can transmit the syphilis to the product of conception; the latter is more liable to occur the nearer the moment of conception is to the beginning of syphilis.
3. The mother may give birth to a syphilitic child while remaining free from syphilis.
4. When the father and mother are both syphilitic, the child rarely escapes infection.
5. The mother being syphilitic before pregnancy, is the more liable to give birth to a healthy child the more ancient the syphilis.
6. The nearer the syphilis approaches the termination of pregnancy, the greater chance the child has to escape infection.
7. The child born of a syphilitic mother may come into the world presenting lesions manifestly syphilitic, or be born apparently healthy and only become syphilitic after some months or even years.
8. Syphilis imparts no particular characteristic to the course of confinement. Mercurial treatment instituted at the beginning of pregnancy in syphilitics permits the mother:
    1. Often to carry gestation to term;
    2. To give birth to a living, though sometimes syphilitic child;
    3. In some cases to give birth to a living child and without lesions.
    4. Sometimes the child, born healthy of syphilitic parents, remains free from syphilitic troubles, when the mother has been treated during pregnancy.

When, the father being syphilitic, the mother becomes pregnant and submits to mercurial treatment, there is much chance that gestation will terminate at term in the birth of a healthy child. B.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Kaiserling's Method for the Preservation of Specimens with their Natural Colors

The above method was referred to by Dr. W. F. Whitney at the March meeting of the Boston Society of Medical Sciences.

Slices of organs from 3 to 5 ctm. thick are placed from 3 to 5 days in:

1.	Formaldehyd	200 c.c.
	Water	1000 c.c.
	Nitrate of potash	15 gme.
	Acetate of potash	30 gme.

They are then removed, the fluid allowed to drain off and placed in:

2. Alcohol 80% for 6 hours, then
Alcohol 95% for 2 hours.

From this directly into

3.	Water	2000
	Acetate of potash	200
	Glycerin	400

for permanent preservation in a dark place.

Further details for the preservation of whole organs, etc., should be studied in the original article (C. Kaiserling, Virch. Arch. Bd. 147s, 389).

The results thus obtained are certainly wonderful, and promise to be one of the greatest aids to teaching of this generation.

Results of Some Recent Experiments on the Cornea

In his report to the Boston Society of Medical Sciences (March 30, 1897), Dr. W. T. Councilman said it may be regarded as established that the new cells which appear in the cornea at an early period of inflammation are leucocytes which come from the vessels of the conjunctiva and find their way into the tissue. They pass into the cornea both from the periphery and from the center in case the corneal tissue is broken in the production of the initial central injury. The regeneration of the tissue takes place by proliferation and new tissue-formation of the corneal corpuscles outside of the area of necrosis, produced by the injury.

The methods of investigation consisted in cauterizing the center of the cornea, both with nitrate of silver and caustic potash, and inoculating with a culture of staphylococcus of known virulence. The cornea and conjunctiva were examined after varying intervals of time. Essentially two methods of examination were used. In the first, the entire cornea was silvered while the animal was anesthetized, then aften ten minutes the animal was killed, the tissue thoroughly washed, and exposed for twenty-four hours in a slightly acidulated mixture of glycerin and water to the action of diffuse daylight. It was then cut into serial section with the freezing microtome, stained with hematoxylin and mounted in balsam.

The other method of examination consisted in hardening the tissue in corrosive sublimate or Zenker's fluid, and cutting both conjunctiva and cornea into thin, flat sections, staining and mounting in balsam. The most satisfactory methods of staining consisted in staining with rosin followed by polychrome methylene-blue. The best results were obtained from hardening in Zenker.

After inoculation of the center of the cornea with the staphylococcus, emigration begins from the vessels of the conjunctiva in two hours, and in four is considerable. The eosinophilic cells are the first to come through the vessels. The non-eosinophiles do not appear to emigrate before eight hours. The cells make their way, both into the cornea and through the conjunctival epithelium to the surface. These pass to the center of the cornea and infiltrate the lesion and the surrounding tissues. Only the eosinophilic cells pass through the conjunctiva and only these are found in the central injury. In such cells the nucleus is always found at the two ends of the cell, the two parts being connected together by a fine nuclear filament, which in some cases is almost invisible. Disintegration of these cells is constantly taking place. Complete disintegration of the cell takes place by fragmentation of the nucleus and protoplasm. This disintegration of the leucocytes is so extensive that a majority fail to reach the central lesion in good shape. The center of the cornea is not reached by these leucocytes before eighteen hours. Emigration takes place first from the vessels of the venous plexus immediately around the cornea, later the vessels of the sclera and the iris take part in it.

Around the central lesion the leucocytes are found in the first hours among the bacteria and many of them contain the cocci. Later they form a wall outside of the bacteria. After eighteen hours the central lesion shows in the center a mass of micrococci in broken and more or less disintegrated corneal tissue; outside of this is a zone of necrotic tissue which contains neither micrococci nor leucocytes; then comes a definite wall of eosinophilic leucocytes, most of which no longer take the eosin stain and which are more or less disintegrated; outside of the leucocytes there is necrotic corneal tissue and then the normal corneal corpuscles which do not show any phenomena of multiplication.

B.

Fossil Bacteria

M. B. Renault (*Ann. des Sciences Natur.*; ref. *Brit. Pharm. Jour.*) has long worked at the indications of bacteria found in geological strata, and now publishes the general result of his observations in a paper illustrated with a large number of drawings. As might be expected from their simple structure, bacteria appear to have been coeval with the first appearance of organic life on the earth, the coccoid form being apparently earlier than the bacillar. Indications of their presence are found in bone, teeth, scales, and coprolites, as well as abundantly in vegetable tissues, the spores and sporanges of ferns appearing to have been especially subject to their attacks. The species are, as a rule, distinct from those at present in existence. B.

"Is Malaria a Water-Borne Disease"

In a paper with this title, read before the Johns Hopkins Medical Society (*Bulletin of the Johns Hopkins Hospital*, March, 1897), Dr. Rupert Norton said that there were several points in the consideration of this question which make an exact answer extremely difficult. First and foremost stands the fact that the malarial organisms, those forms producing malarial fever in mankind, have not been recognized outside the blood of human beings. Other similar types or species of organisms have been found in the blood of frogs, birds, etc., but these do not seem to be of the same species as that which produces the fever in human beings. Another difficulty is the occurrence of malarial fevers and typhoid fever in the same places at the same time of the year, oftentimes with very similar types of fever. Again, it is generally supposed that the malarial organisms exist in the soil, and we know that typhoid fever may be communicated by drinking-water, the belief is a common one that malarial fever may be induced in the same way. Malaria is almost as widespread a disease as typhoid, and yet does not occur in epidemics. We do not find in towns or elsewhere groups of patients whose infection can be traced to a single supply of water or milk.

All the evidence that has been so far collected to confirm the water-borne theory is not of sufficiently exact quality to carry much weight. To prove that malaria is water-borne in a given case demands certain conditions, and even if all these demands could be satisfactorily met, there would at the present time still be the proof lacking that the malarial parasite lived in the water. Outside of the human body we know nothing of the life-history of this parasite.

To confirm our view we have the definite knowledge that drinking-water from malarial places does not produce the disease experimentally. And finally, it is probable that a large number of the cases attributed to malarial infection are not malarial, but rather typhoid, and if not the latter, then due to some auto-intoxication from the intestine. Further, says the author, until we know more of the life-history of the malarial parasite outside of the human body, it is fair to question the water-borne theory of malaria. B.

A Differential Stain for Amebæ Coli

Dr. F. B. Mallory considered this subject at a recent meeting of the Boston Society of Medical Sciences (*Jour. of the Boston Soc. Med. Scien.*, April, 1897).

The nuclei of amebæ do not stain with ordinary basic stains, such as methylene-blue and alum hematoxylin. By the following method a differential stain of the nuclei is obtained, so that the amebæ can be readily recognized:

1. Harden tissues in alcohol.
2. Stain section in a standard aqueous solution of thionin for 5 to 15 minutes.
3. Wash in water.
4. Differentiate in a 2-per-cent. solution of oxalic acid for from ½ to 1 minute.
5. Dehydrate in alcohol.
6. Clear in oleum origani cretici, or directly in xylol if absolute alcohol be used.
7. Xylol balsam.

The nuclei of amebæ and the protoplasmic granules of mastzellen are stained brownish red: the nuclei of mastzellen and of all other cells are stained blue.

A similar differential stain can be obtained by the method advised by Unna for staining differentially the granules of mastzellen.

1. Harden tissues in alcohol.
2. Stain sections in Unna's polychrome methylene-blue solution for fifteen minutes to several hours.
3. Decolorize in a small dish of water to which are added a few drops of glycerin-ether mixture.
4. Wash thoroughly in water.

5. Alcohol.
6. Oil of bergamot.
7. Xylol balsam.

Only fair results were obtained by the first method with hardened feces containing amebæ, because many substances in the feces precipitate the thionin in the form of fine red crystals—Unna's method may prove better.

II. Phosphotungstic Acid Hematoxylin.

Phosphotungstic Acid (Merck) 1-per-cent. aqueous solution	100. c.c.
Hematoxylin	0.1 gme.

Dissolve the hematoxylin in a little hot water, and add when cold to the dilute acid. The solution changes in a few minutes from a greenish to a brownish color of slight intensity, but of considerable opacity. The solution is ripe at once, and keeps well without a preservative for several months. It stains slowly, requiring from one to twenty-four hours, according to the fixative used and the tissue element to be stained.

Directions for staining:

1. Stain sections 1 to 24 hours.
2. Wash in water.
3. Alcohol (not over 3 to 5 minutes).
4. Oleum origani cretici.
5. Balsam.

The solution possesses the property of being polychromic. Connective-tissue fibers, and the ground substance of cartilage, bone, and of the cornea are stained a light to dark pink after various fixing reagents, of which alcohol and Zenker's fluid have been found the most generally useful. The pink is readily extracted by alcohol so that prolonged treatment with it must be avoided. Nuclei are stained a deep, clear blue. The protoplasm is stained a light blue, if staining be prolonged. The contractile elements of striated muscle fibers stain intensely and quickly after hardening in alcohol, less well after other fixatives. Fibrin stains readily after hardening in alcohol or Zenker's fluid. Elastic fibers stain sharply in the course of twenty-four hours in preparations hardened in alcohol, less well after fixation in Zenker's fluid. Celloidin remains unstained. B.

Preservation of Anatomical and Histological Specimens by Melnikoff's Process

A. Pilliet, curator of the Dupuytren Museum, contributes to *Progrès méd.* T. V, No. 15, pp. 225-226, 1897) the following account of this method:

Formalin vapors act on large pieces of tissue, like a cerebral hemisphere, as easily as osmic-acid vapors do on infinitesimally small pieces.

The specimens ought not to be washed and definitely arranged at the time of putting them into the formalin. The parts of them to be specially preserved must not come into immediate contact with the formalin. The masses of tissue are put into a jar on a layer of cotton wrung out of water, which serves as a bolster to hold up the material in the desired position. Formalin is then added to the cotton. The portion of tissue touching the formalin will not be best cured; only those parts removed from direct contact will undergo the desired transformation.

1. The material is left in the formalin jar twenty-four hours; 150 to 200 gme. (4¾ to 6¼ ounces) of formalin, chemically pure and undiluted, would be needed for half a brain; 3½ to 3 ounces for small pieces. The cotton layer should permit the material just to touch the liquid formalin.
2. Transfer from formalin into alcohol 95 per cent. for six to eight hours.
3. Thence into the following glycerin solution for permanent keeping:

Distilled water	100 gme.
Glycerin	60 gme.
Acetate of potassium	30 gme.

Formalin increases the density of the tissue; alcohol diminishes its volume; the third solution restores it to its normal condition of form and volume. In the formalin the first staining is lost; in the alcohol it is pretty well recovered, so that the arterioles seem injected; in the third solution the first straining is definitely fixed.

Good results are obtained by fixing in gelatin select specimens treated in the above manner. One hundred gme. (3 ounces) of gelatin are diluted with 600 c.c. of water boiled a long time. In the hot gelatin add 350 c.c. of solution of potassium acetate (1 to 2); filter in a double Swedish filter and add 700 c.c. of glycerin. This solution must be decanted slowly, to avoid air-bubbles, into a bottle furnished with a hole (or stopcock) at the bottom for the removal of the water.

The method is somewhat expensive, but perfect for preserving the appearance and color of a specimen, merely hardening it. The persistent action of eosin on the red corpuscles, when the prepartion has not been previously washed, fixes them *en masse* completely obscuring the tissue, all the more because it undergoes no contraction while the tissue does shrink, thus acting directly opposite to all other reagents.

The cost, the irritation to eyes from vapor of formalin and the unpleasant effect on the fingers in handling specimens, together with slight toxicity of the formol, are offset by the economy of time—months being reduced to one week. H.

THERAPEUTICS AND PHARMACOLOGY

William Fankhauser, M.D., W. J. Robinson, M.D.,
David M. Stabler, M.D.

Chelidonine Phosphate, Sulphate, and Tannate

These salts, while known for some time, are practically new so far as therapeutical employment is concerned. The phosphate and sulphate form colorless crystals, easily soluble in water, whereas the tannate is only soluble in alcohol, and forms a powder containing 53.5 per cent. of the pure alkaloid (*Pharm. Post*, XXX, p. 148).

These salts have yielded excellent results in gastric ulcer, gastric carcinoma, and in enteralgia, in which affections from 0.1 to 0.2 gme. (1½ to 3 grn.) of the sulphate, or 0.2 gme. of the tannate, caused not the slightest symptoms of constipation, drowsiness, stupor, or other by-effect; they are, therefore, considered preferable to opium.

F.

Local Hot-Air Treatment in Rheumatism and Allied Affections

W. Knowseley, in the *Lancet*, 1896, No. 3809, p. 593, employs for the hot-air bath a copper cylinder shaped to the part affected, and heated by either oil or gas to a temperature of even 250 to 300° F. The limb is kept comfortably incased in the cylinder for upward of an hour at a perfectly dry temperature, taken by a thermometer suspended therein. The advantages over the Turkish bath are that the temperature is higher and continuous, and the patient breathes the same air as before, and not that of the heated chamber, and thus does not feel the depressant effects.

The physiological results are as follows: (1) the heat produces dilatation of all the cutaneous vessels, and free circulation through the parts; (2) there is free perspiration of an acid sweat, and (3) relief from pain at once. Generally (1) there is profuse perspiration and dilatation of vessels; (2) increase of the rate of the pulse and force of the heart's action; (3) increase of the respiratory movements, and (4) an increase in the body-temperature often of two or three degrees F.

The treatment appears to lower the blood-pressure of the body, and in some way to increase the alkilinity of the blood, which enables it to dissolve the uric acid from the tissues and joints and get rid of this substance through the various excretory organs. This is evidenced by the relief from local pain and the removal of the frequent uric-acid nerve-depression. Hence, the treatment is of a tonic nature, and bestows an increased general vitality upon the patient. One of the most beneficial results of this treatment is the immediate and effective sleep which follows each hot bath. His two years' experience with this method warrants the author in holding out a good prognosis to those suffering from arthritis deformans and those forms of rheumatism yielding to none of the ordinary measures generally employed.

Holocaine

According to the *Brit. Med. Jour.*, Gutmann (*Deut. med. Woch.*, March 11, 1897) relates his clinical investigations with this new anesthetic, which is closely allied to phenacetine. The chloride of holocaine crystallizes in white needles, dissolves in hot water, but is only sparingly soluble in cold water. If the salt is heated with water in a glass vessel the solution is often cloudy, owing to a small amount of alkali present; hence a porcelain vessel should be used. The author first records his experiments upon rabbits. He has used it in 30 cases in men, of which 13 had a foreign body in the eye, 2 were suffering from keratitis, 7 were ophthalmic operative cases, and in 8 cases the eyes were healthy. One minute after the instillation of from 3 to 5 drops of a 1-per-cent. solution there was anesthesia of the cornea. A passing burning sensation was felt. The foreign bodies were removed without inconvenience, and the galvano-cautery was used in a case of corneal ulcer and in a case of keratitis. Tattooing was also performed in two cases of leucoma. In one case it was possible to compare tenotomy of the eye-muscles under cocaine and under holocaine. Less pain was experienced in the latter instance. The duration of anesthesia under holocaine is from five to fifteen minutes. The cornea remains moist and shining. The ocular tension is not diminished. The pupil remains unaltered and accommodation is unaffected. In a patient aged 48, 3 drops of a 2-per-cent. solution of cocaine were instilled into one eye; anesthesia appeared in 2½ minutes, and lasted 3½ minutes, the pupil dilated, and the tension diminished. With 3 drops of a 1-per-cent. solution of holocaine instilled into the other eye, anesthesia appeared after a slight feeling of burning in 1 minute, and lasted 9 minutes, the pupil was not dilated, and there was no alteration in the tension. The rapidity of anesthesia with holocain is an advantage. The dilatation of the pupil under cocaine for the removal of foreign bodies is a disadvantage. The lessened pressure is a drawback in cataract-extraction, but useful in operation for glaucoma. The author says that holocaine should not be used subcutaneously, as intoxication-symptoms were rapidly produced by a small dose in a rabbit. For external use he recommends it as a substitute for cocaine. B.

The Action of Taka-Diastase in Various Gastric Disorders

Julius Friedenwald, A. B., M. D., discussed the above subject in a paper read before the ninety-ninth annual meeting of the Medical and Chirurgical Faculty of the State of Maryland (*New York Med. Jour.*, May 29, 1897), and formulates the following conclusions:

1. That taka-diastase exerts no influence under normal conditions upon gastric digestion nor upon cases of nervous dyspepsia with normal motor and secretory functions.
2. That in cases of motor disturbances of the stomach with normal secretory functions, such as atony, taka-diastase increases the motor action without in any way influencing the secretory function or the digestion of starches.
3. That in cases of sub-acidity taka-diastase acts differently, according to whether there is a catarrh or a nervous dyspepsia. In nervous cases it has no effect whatever upon digestion, while in cases of catarrh it appears to have a tendency to increase the flow of acid and promote the digestion of starches.
4. That taka-diastase exerts its most favorable influence in cases of superacidity. It not only promotes the digestion of starches in these cases, but diminishes the excess of acid and increases the motor function.
5. That taka-diastase in a great measure replaces the saliva when this secretion is diminished or absent. It then not only digests the starches in the stomach, but serves the other function of the saliva in stimulating the gastric secretion and therefore promoting the proteid digestion. B.

Birch Leaves, a Powerful, Harmless Diuretic

Prof. Winternitz's attention was called to the leaves by a female patient, whose dropsy, due to kidney disease, was cured by them after every other diuretic had been tried in vain (*Centr. für die Ges. Therapie*, XV, 3). Twenty-four hours after the first dose the secretion of urine becomes very abundant (in many cases the urine increases from 300-400 c.c. to 2000-2500 c.c. pro die), and continues as long as the tea is taken. The albumin, epithelial cells, cylinders, etc., become less, and then disappear completely; and it is worthy of note that, though the increase in the urinary secretion is so enormous, no symptoms of irritation (of the renal parenchyma) have been noticed in a single case. Prof. W. recommends an infusion, made by macerating 3 oz. of the leaves in about a pint of hot water for two hours, to be drank in three portions during the day. The leaves must be gathered in spring and dried in cool, airy rooms.

M.

Salol in Progressive Pernicious Anemia

G. Dieballa (*La Sem. méd.*, 1896, XVI, p. 198) had occasion to observe a 15-year-old patient suffering from a progressive pernicious anemia of unknown origin (the dejections containing no parasites, either adult or embryotic), that had resisted treatment with iron, bone-marrow, quinine, arsenic, and inhalations of oxygen. Despite these various means, given one after another for a period of five months, the patient's condition became steadily worse; the weakness and emaciation became extreme, and finally delirious attacks set in.

It was then that recourse was had to salol, suspecting that the malady was caused by an auto-infection of intestinal origin. The remedy was administered in one grm. doses, repeated five times daily. At the end of a week, the delirious attacks had succumbed, the appetite had become good, and the strength was such that the patient, who until then had been obliged to remain abed, could get up. This amelioration constantly increased as long as the salol was given. The disuse of the remedy was twice attempted, but each time a return of the symptoms followed.

At first 5 gme. of salol were given per day, then reduced to 3 gme., and three months later all treatment was stopped, the cure appearing to be complete.

At this period the strength of the patient had completely returned, and the physical indications of the anemia (pallor, blowing heart-murmur, tumefaction of the liver and spleen, and characteristic changes in the blood) had disappeared.

On the other hand, a Russian army surgeon, Dr. M. B. Blumenau, has observed at the military hospital of Grodno a case of pernicious anemia, which was cured with remarkable rapidity and completeness by the ingestion of bone-marrow. The patient was a soldier, twenty-three years of age, in whom the anemia had supervened as the result of severe dysentery. Among other symptoms, he presented malleolar edema, ascites and a certain degree of dilatation of the right half of the heart, with a systolic murmur at the apex. He was so weak as to be unable to rise. No favorable effect having been obtained by the administration of large doses of iron and arsenic, Dr. Blumenau ordered the patient 90 gme. daily of raw bone-marrow, which he took either on bread or in soup. This treatment, without any other medication, was followed by the disappearance within two months and a half of all the morbid phenomena, including weakness, edema, ascites, and cardiac disturbances.

The Value of Apiolin in Neurotic Dysmenorrhea

Dr. D. S. Maddox considers this subject in a brief paper contributed to the *Medical and Surgical Reporter* (June 5, 1897). After discussing the various forms of dysmenorrhea he goes on to say that in the treatment of dysmenorrheal cases, where there is no tangible pelvic lesion demanding strictly local attention, or operative interference, he has of late come to rely on a single remedy—apiolin, the active principle of Petroselinum sativum, introduced to the profession by Chapoteaut.

The writer cites three cases in all of which the drug gave relief. The remedy was administered in capsule form, and was given at the menstrual periods, beginning three days before the flow was due. As a rule, one capsule given three times a day will be sufficient. B.

Opotherapy

A. Chassevant, in *Rev. de Therap. méd.-chir.* (No. 1, pp. 1-5, 1897), under the above heading considers the therapeutic use of animal extracts as introduced by Brown-Séquard, who foresaw the general character of this new therapy when he wrote: "The therapy which we propose comprises not only liquids taken from various glands, but also those made from all the special non-glandular tissues." This first study on the therapeutic value of testicular extract immediately aroused numerous physiological and clinical researches upon it by Arsonval and others. Those carried on by Villeneuve, Carl Vogt, and others in the treatment of various diseases by these extracts have created a considerable movement of new ideas in exploring the new field. Landouzy says that opotherapy, scientifically practised, prudently conducted, reserves more surprises for us. In 1892 Constantin Paul undertook nervous opotherapy, treating neurasthenia and tabes with gray substance of the brain. Schiff, Lannelongue, Gleg, Murray, Hourtz, etc., have established the remarkable specific action of the thyroid body. Minkowsky, Hedon, Thiroloix, etc., have tried the action of pancreas pulp on diabetes. Dieulofoy has prescribed with success renal extract in uremics. The use of other extracts is growing daily.

There will be considered only the mode of administration and the pharmaceutical form.

Opotherapy has for its aim to demand assistance from a gland or a tissue by making its extract furnish the active principle needed for the function of the ailing organism.

The first method is grafting. This has been but little used, except for the thyroid gland in man. Schiff demonstrated experimentally that grafting of a thyroid body from another animal onto a dog whose thyroid has been cut away prevented the fatal accidents following ablation of this body. Lannelongue, in 1890, grafted the thyroid on man with success. Bicher, Serrano, and others followed; but all found that the amelioration was only temporary; that the engrafted thyroid rapidly lost its histological structure and function, and that the patient relapsed. This, with the gravity of the operation, led to the abandonment of this method. Horsely, however, recommends it, claiming that "if the gland atrophies it is because it is introduced into an organism saturated with toxic products. If, then, we commence by demyxedemizing the patient, making him eat thyroid till the complete disappearance of every morbid symptom, and then doing the grafting, the gland will not atrophy; it will live and continue to secrete the antitoxic substance." His experiments on monkeys seem to be successful.

The second method is by subcutaneous injection. It is best for ascertaining the value of the organic extracts. They should be prepared aseptically by Arsonval's method, or by Gley and Murray's modification. In practice it is difficult for the physician to prepare and keep the organic liquids, though it is easy for the physiologist, who makes them in his own laboratory. Prepared in the cold, they may be innocuous, aseptic, containing a minimum of germs; but they cannot be positively sterilized.

The third method administers by the digestive track. By mouth or rectum, it is very rational, almost equivalent to subcutaneous injection. The intestinal membrane is first cleansed of all its mucus to insure the stay of the glandular extract, which is further aided by opiates. This method supposes that the active principle is not destroyed in its passage through the intestinal mucous membrane, and that it is dialysable. When taken by mouth it is presupposed that the active principle of the ingested organ is not destroyed by the gastric juice, and that it gets within the organism without modification by the intestine or liver. This supposition is now shown to be well founded for the active principle of the thyroid, though not yet positively so for all the other agents of this kind.

The pharmaceutical form may be varied—capsules, powders, pills, fluid extracts, etc. The preparation must not destroy the active principle, prevent its keeping, nor give false security. However well prepared, they are easily putrescible. Though aseptic at first, they may become contaminated on the occasion of their first use. Though dry when made, they may be hygroscopic, and soon become culture-media. Kept in capsules over a stove, they have fermented. Fermentation once begun, even though stopped, introduces toxic ptomaines. The physician ought to prepare them fresh or renew them often. When the active principle is known, it ought to be preferred and its action in definite dosage observed.

The therapeutic action of thyroid opotherapy is well-known. Success with it is oftenest obtained in affections in which there is suppression of the thyroid function. Thyroid treatment is specific against myxedema. Goitre and obesity may also be treated by it. Bourneville and others have shown its action on growth and idiocy. We must be more reserved as to its efficacy in Basedow's disease, epilepsy and skin diseases. When given it ought to be carefully watched as to pulse and blood-pressure, stopping it at the first symptom of intolerance, recollecting that its active principle seems to accumulate in the system. Baumann has extracted thyroidine which he considers the sole active principle. Frankel obtained a special substance—thyro-antitoxin—which he thought was crystallizable; but Tamback obtained crystals of mosite and proved that the active principle would not crystallize. Heat and other reagents did not alter the active principle, and the aqueous extract possessed all the properties of the fresh gland. Marie used fresh sheep-gland, a lobe a day at the outset, then a lobe every two days. The strength of active principle in a lobe varies with both the species and the individual. The quantity of iodine is far from constant in glands, and foreign preparations with constant quantity of iodine are not on that account free from suspicion.

Ovarian opotherapy was thought to counteract the bad effects of removal of ovaries. The attempts have been encouraging, and the cases noticed favor the treatment.

It has also been tried for dysmenorrhea, amenorrhea, chlorosis, ovarian neuralgia, with evidences of success, by Mond, Spillman, etc. Muret has used subcutaneous injections in doses of 1 c.c. of a glycerin solution for disturbance of the menopause, using the Brown-Séquard d'Arsonval method of preparation—1 gme. of heifer's ovary to 5 gme. of glycerin. Spillman and Etienne used sheep ovaries.

Langlois, judging from the few cases of Addison's disease, in which he has used extract of suprarenal capsule, favors its use by enemata employing not more than 3 gme. of gland substance a day.

Hasenfeld and Kettie administered to a diabetic 5000 gme. of fresh, hashed pancreas subdivided into 24 enemata. The treatment was well-borne, the patient retained the enemata 7 to 8 hours, but the result was negative.

Opotherapy of other organs is yet to be studied. Too few efforts have been made to deserve recording.

The first rule of regulating the preparation of these new agents should be "*primum non nocere.*"

Therapeutic Action of Betanaphtol-Bismuth (Orphol)

Dr. Goliner (*Allg. med. Central-Zeitung*, No. 96) tells us that our attempts to influence the diarrhea of consumptives by intestinal antisepsis have lately been given a national basis by Chaumier, of Tours, who has called renewed attention to the importance of these therapeutic meausures.

Daily experience teaches us that astringents, like opium and tannin, have no healing influence on tubercular intestinal ulcerations. What is required is a reliable intestinal antiseptic that shall have at the same time astringent properties; thus lessening the evil effects of the micro-organisms and their products, and making the mucous membrane a bad culture-ground for them. The lessening of the secretion also reduces to a minimum the nutrient materials obtainable by the microbes. Orphol or betanaphtol-bismuth is such a drug. It is a light-brown powder, prepared by the chemical factory of Von Heyden at Radebeul, and though composed of oxide of bismuth and naphtol, has neither the repulsive smell nor the burning taste of the latter drug.

Orphol influences the mucous membrane of the digestive tract in two ways. In the first place it is a disinfectant, hindering the development of the bacteria. It is also an astringent to the mucosa, by virtue of the bismuth that it contains. It is worthy of notice, also, that orphol does not, like opium and tannin, in any way interfere with the stomach, so that even patients suffering with dyspepsia bear it very well.

Dr. E. Chaumier (*Therap. Woch.*, No. 48) says that of all intestinal antiseptics betanaphtol has so far given the best results. Its unpleasant taste, odor, and the burning sensations in the stomach, to which it gives rise, render it difficult of administration, especially to children. Many substitutes, such as betol, salol, and salicylate of bismuth, have been employed, but have been found unsatisfactory.

In the intestinal antiseptic orphol (betanaphtol-bismuth) we have a remedy which gives the same good results as are obtained from the use of betanaphtol, without its drawbacks. It does not produce any burning sensation, and is easily administered, even to children. In the diarrhea of children it is especially serviceable. The dose varies from 1 to 5 gme. (15 to 75 grn.) per diem for children and infants. It may be given either with milk or honey. The noticeable good effects in these cases are that the stools lose their fetid odor, watery character, and green color. The dose for adults is from 5 to 10 gme. (75 to 150 grn.) a day. Good results have been obtained from its administration in the diarrhea of phthisis and typhoid fever in adults. B.

Calcium Sulphide in Inflammatory Diseases of the Air-Passages

Dr. Shields has used calcium sulphide (*Jour. Am. Med. Assoc.*) with remarkable results in inflammatory diseases of the air-passages. It is very beneficial in fetid bronchitis, exerts a favorable action in pulmonary tuberculosis, and in fifty cases of pneumonia, in which he used the drug (in conjunction with quinine and nitroglycerin) the mortality was extremely small. But it is especially in tonsilitis and quinsy that its action was almost specific. In only four cases out of 150 did it fail to effect a complete cure in from two to six days. The drug is prescribed as follows: 1 grn. every hour for four doses, then every two hours for six doses, then every three hours until all inflammatory symptoms have disappeared. M.

Naphtosalicin—A Disinfectant

This is a preparation obtained by dissolving naphtol and salicylic acid in boiling borax-solution, in fifty times their weight of ammonia water. It is recommended by L. Cuntz (*Pharm. Post*, XXX, p. 113), for the washing of clothes as a disinfectant; it affords permanent solutions upon dilution with water, and is particularly suitable for disinfection on a large scale. E.

REVIEWS

Le Traitement Physiologique de la Mort: Les Tractions Rhythmées de la Langue, Moyen Rationnel et le plus Puissant de Réanimer la Fonction Respiratoire et la Vie. Par J. V. Laborde, Chef des Travaux Physiologues à la Faculté, Membre de l'Académie de Médecine, etc. Second and Revised Edition. 1/4 vol. in-12 of 574 pages. 5 francs. Felix Alcan, publisher, 108 Boulevard Saint-Germain, Paris.

The method of Dr. Laborde has become so universally used, and the facts pertaining to its application have increased so rapidly in the past two years, that it has become an absolute necessity to issue a second and revised edition of this instructive work, which deals with the subject in an exhaustive, comprehensive and good form.

Numerous articles by eminent men, who have investigated the subject, are reproduced.

Laborde's method of resuscitation has been successful after one, two, and even three hours of persistent and patient application; and being a purely mechanical procedure, it may be practiced by any one. It likewise affords a certain solution as to whether death is real or apparent.

This volume should be in the hands of all those who are interested in the subject, although Laborde's work will also appeal strongly to the progressive physician.

Lippincott's Medical Dictionary.—A complete vocabulary of the terms used in medicine and the allied sciences, with their pronunciation, etymology and signification; including much collateral information of a descriptive and encyclopedic character. Prepared on the basis of Thomas's Complete Medical Dictionary by Ryland W. Greene, A. B., with the editorial collaboration of John Ashhurst, Jr., M.D., LL. D.; Barton Professor of Surgery and Professor of Clinical Surgery in the University of Pennsylvania; George A. Piersol, M.D., Professor of Anatomy in the University of Pennsylvania; and Joseph P. Remington, Ph. M., F. C. S., Professor of Theory and Practice of Pharmacy in the Philadelphia College of Pharmacy. J. B. Lippincott Company, Philadelphia, 1897. Price, Cloth, $7; Sheep, $8; Half Morocco, $8.50.

Every doctor needs a medical dictionary to enable him to know the meanings of the multitude of new technical terms that are daily meeting him in current medical literature, he needs it if he takes any pride in his style of pronouncing such words when talking to brother practitioners and he needs it when he undertakes to write on a medical subject and wants to be accurate in his spelling. Nothing looks so undignified and unprofessional as bad pronunciation, bad spelling and inability to understand what other doctors are talking about when they use medical words that we do not understand. Better have no dictionary at all than an antiquated one that does not give a word unless it is a decade or more old. To consult such a dictionary is a weariness to the soul. In selecting a good medical dictionary, one that will meet every reasonable requirement, we want it to be up to date, complete, so far as true medical terms go, conveniently arranged, accurate and intelligible in its definitions, printed in type large enough not to injure the eyes of those who consult it and possessing a good phonetic system of pronunciation. All of these indications are found in Lippincott's Medical Dictionary. We know of no better work than this of its kind, and being so recent it has a decided advantage over its competitors. The men who have taken part in its construction have world-wide reputations in their various departments. The publishers have done their share toward making it a desirable and useful volume. The paper and binding are good and the type throughout is flawless and distinct.

Handbook of Structural Formulæ for use of Students, Containing 180 Structural and Stereo-chemic Formulæ. By Henry Leffmann. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1897. Price $1.

Medical and pharmaceutical students will find in this little volume an exceedingly valuable aid in their study of chemistry. The selection covers the most important inorganic and organic substances used in medicine and such as will enable them to clearly comprehend the structures of the same. A few of the illustrations are in the domain of stereo-chemistry. The author is well known to medical men and chemists through his works on water-analysis, milk-analysis, his "Compend of Chemistry," his "Exercises in Practical Chemistry," and his translation of Weyl's "Sanitary Relations of the Coal-Tar Colors."

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CORRESPONDENCE

To Fight Abuses

New York, June, 1897.

To the Editor of the A. M.-S. BULLETIN:

You are no doubt aware that the New York Medical Society for Advancing the Practice of Medicine has set forth an example to the medical fraternity that the penetration of various evils in the medical profession which tend to degrade its dignity is due to nothing ese but to the inactivity of its members. The last bill incorporating certain reforms in the management of dispensaries introduced by our Society in the legislature at its last session, has convinced us that the medical profession is recognized and highly respected by the legislators of this State, and without opposition it passed both houses. Had it not been for the obstacle and mediation of some of the members of the State Board of Charities, who wanted to have the full control over the matter, the original bill would have passed without difficulty and the act would have been a law.

Again, had we not been deceived by their promises of the protective regulation of the dispensary law in the future, we would have not delayed its passage to such a time that it should come in the hands of the Governor to be approved after the adjournment of the legislature, thereby giving the opponents of the bill the opportunity to see the Governor and urge his disapproval so that it should not become a law. The report of the committee on abuses of medical charities of the County Medical Society, at its last meeting, shows how every physician of this city and even the whole State (save a very few monopolizers of the medical practice who have proven to be in this instance traitors to their professional colleagues) is at heart in full accord with our cause, and together with us have used every possible influence to have our bill passed. We have, however, demonstrated by our noble efforts that the members of the medical profession ought to be put in such a position that they should be able to demand their rights, and that they should not be hampered to please the political auxiliary.

We have other evils to battle with which require energetic work.

A number of institutions have been formed of late that send students to attend to obstetrical cases and all kind of gynecological work outside. regardless of the skill of the attendants and of the patient's financial standing; various quacks curing all "ills that flesh is heir to"; patent medicines filling the systems of the ignorant masses at the expense of the physician; druggists prescribing behind the counter; hospitals taking in rich patients for a nominal weekly payment; midwives practicing medicine under cover of registration, and above all, the degradation of our noble profession by a great number of our colleagues with their so-called society or lodge practices. Now all these abuses may be remedied, and, now, before our profession is actively monopolized by the various treacherous methods, we must work with all our energy to bring about a change. This change can only be brought about through a complete organization of the medical fraternity.

Our society stands ready to work in every possible way, not through monthly meetings, but every day in the week, if required, and we therefore demand the support of our fellow colleagues. We have in store very important measures for the improvement of the medical practice that will not only be approved by the physicians, but the public at large will be convinced of the benefit of our reforms and will heartily commend them as advantageous to both profession and laity.

We solicit the joining of every regular and honest practitioner in our society for our noble cause, in order that we should be able to be represented in the State as well as in the municipality as an organized body of scientific men, and that we shall be in a position to eradicate such evils and abuses unjustly practiced in the process of meddling with the life and health of the community.

S. D. DOUGLASS, M.D.,
JULIUS SACHS, M.D.,
LEON CHERURG, M.D.,
SIGMUND TARLER, M.D.,
NICHOLAS SACHS, M.D.,
} *Committee.*

◆

Otitic Phlebitis of the Lateral Sinus Cured by Operation

M. Chipault presented to the Academy of Medicine (Paris, February 9, 1897) *La Semaine méd.* (No. 6, p. 44, 1897) the case of a little girl of 14 years who had suffered from an otitic phlebitis of the lateral sinus which had been cured by operation a year previous, done by M. Lambotte (of Anvers). The operation was done in three stages, according to the method recommended by Chipault.

1. Double ligature of the internal jugular with section of the vein between the two ligatures and fixation of the superior end of the vein in the superior angle of the cervical wound;

2. Ligatures of the lateral sinus as near as possible to the torcular herophili;

3. Opening of the sinus and extraction thence of the thrombus; finally, complete disinfection with sublimate solution of the sinuso-jugular passage. The patient left the hospital completely cured, on the seventeenth day after the operation. H.

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Editor: ROBERT G. ECCLES, M.D.

COLLABORATORS:

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EDITOR'S NOTES

The American Antivivisection Society is making a desperate effort to have Senate Bill 1063 passed. We hope that every subscriber and reader of the BULLETIN who has not as yet written to his State Senators at Washington, asking them in the name of true humanitarianism to vote against this bill, will do so at once. It will be a disgrace for us as medical men to let such a measure pass without at least making a strong protest against it. Regrets will be useless when the mischief is done.

We would like to have our readers send us lists or single names of their medical friends that they would like to have us send the BULLETIN to for three months on trial. To favor us in this way will benefit every subscriber, as if in the end it increases our subscription list it will enable us to give more matter and greater value for the dollar. The BULLETIN is now the cheapest medical journal and in contents one of the best published. Compare it page by page with any similar periodical in the world, and then contrast the prices. You can benefit your medical friends by having them share with you the good things of the BULLETIN for three months free of cost.

The Eclectics are crawling for favors from the hand of Missouri's eccentric governor. A neater piece of sycophancy is seldom come across anywhere than is found in a resolution telegraphed from St. Louis by the State Eclectic Association to his excellency. It reads as follows:

"Resolved, by the 750 eclectic physicians in Missouri, represented by their State Association, now in annual session at Meremec Highlands, St. Louis, That we send you greeting and commend with inexorable pride your liberality in thus recognizing the thousand and more liberal physicians and their tens of thousands of taxpaying patients throughout the State; and we further pray that you may extend your good work until all reputable medical men, regardless of ism and pathy, shall have an equal representation in the management of public institutions in Missouri.

"Dr. M. M. HAMLIN, President.
"Dr. W. E. SMITH, Secretary."

All this fulsome eulogy and mister-please-give-me-a-penny sort of performance will not benefit them a particle. He will only despise them for such loss of manhood and dignity. A pack of schoolboys could have acted no more sillily.

The osteopathic conspirators that lately boasted that they were going to get their system legalized in every State, with the privilege of practicing without an examination, have come to grief in Illinois. Governor Tanner was ready with his veto as soon as the bill had passed the Illinois legislature. He gave the following reasons for the course he pursued:

"The act is clearly in the nature of class legislation in that it discriminates in favor of one particular method of treating diseases of the human body and against all other methods. To allow this measure to become a law would be demoralizing to the practice of medicine and treatment of diseases of the human body, and to a large extent destroy the usefulness of the State Board of Health.

"The act would open wide the doors of Illinois to incompetent and unscrupulous adventurers, calling themselves practitioners of osteopathy, and there would be no remedy. The more meritorious the system the better it can afford to stand on a perfect equality with other recognized systems, and willingly subject itself to the control of the State Board of Health under the general law.

"If by my veto I was subjecting the adherents of the new system to any undue hardships or depriving them of any rights enjoyed by others engaged in the laudable business of healing the afflicted, I would hesitate, but I am not. The system or method being new, comparatively untested and very indefinitely understood, there is all the more reason for the general supervision and control of the State Board of Health, without which I am unwilling to give my approval, and therefore return the bill to be filed with my objections."

It is a mystery to us how some men could ever put themselves on record as voting for so unreasonable a measure. Had the bill become a law it would have changed Illinois from being the banner State of the West in dealing with quackery into one of the worst dumping-grounds for quacks. We congratulate the members of the profession in Illinois for their deliverance from the impending calamity.

The *American X-Ray Journal* is a new monthly devoted to the practical application of the new science and to the physical improvement of man. It is published in St. Louis, Mo., by Dr. Heber Robarts. Two numbers have already appeared filled with live, interesting medical and X-ray information. We welcome it to our exchange list, and wish it that large amount of support which it certainly deserves. Its appearance is quite artistic and pleasing, and the material it contains reflects great credit upon Dr. Robarts. This is the second journal of the kind started within a year, the other being a European venture. The special subject chosen by these two is one that is destined to keep the world astonished with its developments for a long time to come. The new Röntgen Society, organized in London on June 3, with Prof. Silvanus Thompson as its president, will doubtless lead to startling developments. Many well-known scientific men are members, and if they fail to do some good work in this field we shall be surprised and disappointed. Our St. Louis *X-Ray Journal* will no doubt keep Americans posted on what the Röntgen Society is doing.

Camphor as an Anti-Galactogogue

Dr. Hergott recommends camphor in three-grain doses three times a day as the most efficient anti-galactagogue. In a series of thirty cases he noticed that after administering the camphor for three days, the secretion of milk would decrease very markedly (*Gaz. hebdom.*, No. 18)

PUBLISHERS' DEPARTMENT

CARNOGEN

The New York Foundling Hospital and Asylum, New York, makes the following report on the use of carnogen in the cases cited:

Case 1.—Boy, age 4 years; chronic otitis media; pale and poorly nourished; ear discharging freely; no signs of tuberculosis. April 15 he was put on carnogen, 1-dr. doses, three times daily for his anemia. His color has improved, mucous membranes are pinker, and he is better nourished. Weight has also apparently increased. The results of blood-examinations follow:

Date.	Red Corpuscles.	White Corpuscles.	Hemoglobin.
April 15	3,710,000	20,500	49%
May 5	4,250,000	17,250	55%
May 21	4,650,000	15,520	62%
June 11	4,740,000	16,750	68%

Case 2.—Boy, age 6 years; anemia; pale, thin, and poorly nourished; was given carnogen in 1-dr. doses three times daily with marked benefit. Results of blood-examinations as follows:

Date.	Red Corpuscles.	White Corpuscles.	Hemoglobin.
April 15	4,010,000	16,000	53%
May 5	4,240,000	13,250	61%
May 21	4,500,000	14,000	70%
June 11	4,840,000	12,000	75%

Case 3.—Boy, age 3 years; had pneumonia, followed two months later by malaria; became pale and anemic; spleen and liver very much enlarged. April 15, carnogen in 1-dr. doses, three times daily, was commenced. The appended table shows increase in red corpuscles and hemoglobin. His weight has also increased:

Date.	Red Corpuscles.	White Corpuscles.	Hemoglobin.
April 15	3,290,000	11,500	46%
May 5	4,340,000	12,000	53%
May 21	4,550,000	10,000	61%
June 11	4,710,000	10,000	65%

Case 4.—Boy, age 2½ years; tubercular dactylitis and tubercular abscess of elbow-joint; was given iodide of potassium for a few weeks. Abscess was opened, and is now suppurating freely Became very pale and anemic. Carnogen in 1-dr. doses was exhibited, followed by improvement in corpuscles and hemoglobin.

Date.	Red Corpuscles.	White Corpuscles.	Hemoglobin.
April 15	2,980,000	18,000	31%
May 5	3,580,000	14,000	36%
May 21	3,850,000	14,000	44%
June 11	3,920,000	13,750	44%

Case 5.—Girl, age 4 years; adenoids and enlarged tonsils; very pale and anemic; was much improved with carnogen in 2-dr. doses t. i. d. Results are as follows:

Date.	Red Corpuscles.	White Corpuscles.	Hemoglobin.
April 15	4,850,000	14,000	55%
May 5	5,210,000	14,000	63%
May 21	5,230,000	14,250	72%

X-RAY DERMATITIS

Dr. T. C. Gilchrist, of the Johns Hopkins Hospital, calls the new disease caused by too frequent exposure of the hand or other parts of the body to the effects of the X-rays, "X-ray dermatitis."

In the case of a young man who was suffering from such a dermatitis, unguentine was applied twice daily for a week, effecting a complete cure. A free sample and literature can be obtained by writing to the Norwich Pharmacal Company, Norwich, N. Y.

NUTRINE WINE OF BEEF PEPTONE

Nutrine wine of beef peptone is a predigested food in liquid form. Each pint of the preparation contains the entire digestible substance of one pound of fresh, clean beef. It is especially serviceable in typhoid fever and in all cases where nutrition must be supplied without taxing the digestive organs.

HAGEE'S CORDIAL OF COD-LIVER OIL

Hagee's Cordial of Cod-Liver Oil Comp. may be prescribed irrespective of the condition of the digestive organs, or the season. It can be administered without difficulty and it has a decided advantage in being entirely devoid of any fishy or greasy flavor and so is readily taken by the most sensitive patient. The Katharmon Chemical Co., St. Louis, Mo., will send free of cost to any physician who will pay the express charges, a full 16 ounce bottle for test purposes.

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NEWS

The Colorado State Medical Society are trying to secure a Denver man as the head of their organization.

Governor Tanner, of Illinois, has vetoed the bill passed by the Legislature legalizing the practice of osteopathy.

A Colorado Springs physician was recently arrested for leaving his horses on the street without hitching them.

A French physician is reported as advancing the theory that whooping-cough is contagious only before the patient begins to whoop.

The Chicago Health Department has recently issued circulars to all physicians, insisting upon their supplying reliable data as to births in that city.

The authorities of the Colorado State University, the Denver University, and the Gross Medical College are considering the advisability of consolidating into one university.

The course of study in the Philadelphia Medico-Chirurgical College has been extended to four years. The new curriculum will go into effect with the coming season of 1897-98.

The full bench of the Supreme Court of Massachusetts recently held that it is actionable for a hospital to perform an autopsy on the dead body of a child without the father's consent.

The Committee of Arrangements for the American Medical Association of 1898 has been called together to take preliminary action for the great gathering which will be held on June 6, 1898.

The Board of Trustees of the Cincinnati City Hospital have decided to isolate consumptive patients at a branch hospital on a farm. The buildings will be fitted for patients in a short time.

The Medical Society of New Jersey, at one of its recent meetings, appointed a committee of five members to urge the passage of a legislative act authorizing the starting of a colony for epileptics.

The Health Commissioner of Milwaukee is reported as saying that the low death-rate of that city (9 in 1000) is due to the purity of the water-supply and to the thorough inspection of milk and bread.

The controversy between the London advocates and opponents of vaccination, which has continued at intervals ever since the adoption of legislation making inoculation compulsory, has recently broken out with renewed vigor.

According to the *Courant*, of Hartford, Conn., the members of the New Britain Medical Society are having a tumultuous time because their president has seen fit to consult with an outside physician who had been expelled from the society.

The San Francisco ordinance prohibiting spitting in street-cars is no respecter of persons. It was violated by a California millionaire, and, it being his second offense, he was sentenced to twenty-four hours' imprisonment in the County Jail.

The natives of a village about fifty miles from Mexico have taken a genuine Indian method of stopping the spread of small-pox, which appeared among them. The first man to take the disease was beaten to death, and then they set fire to the house.

Owing to a deficiency in the revenues of the State of Pennsylvania, the institutions aided by the State, including the Pennsylvania University, Jefferson Medical College, Medico-Chirurgical College and Hospital, will be deprived of their principal support.

It has been recently stated that suicidal mania is increasing among doctors in Russia. The proportion of suicides to the total number of deaths among the general population in the dominions of the Czar is 1 in 1200; among medical practitioners it is 1 in 28.

A society has been organized in the University of Chicago, the members of which will bequeath their brains to the society, as well as write out a truthful, conscientious, and, so far as possible, unbiased history of their mental processes from the beginning to the end of their life.

A society has been recently established in London known as "The Röntgen Society," organized for the purpose of study of the "X" rays. Some members will study the sources of the rays, others their application; some the induction coils, others the tubes and the various forms and adaptations of appliances.

An anti-vaccination bill has recently been introduced in the Pennsylvania legislature. In speaking of this proposed law the Pittsburg *Leader* says: "It is hoped that the matter will be properly brought to the attention of the members of the legislature, and that the State may not revert, in its sanitary regulations, to a condition illustrative of the Dark Ages."

The twenty-seventh convention of the Colorado State Medical Society was held on June 15, 1897. Dr. Charles Denison presented a "memorial to Congress" scoring the antivivisectionists. He said: "The enactment of laws to prevent fishermen using live bait, farmers from cutting angleworms when plowing, or pedestrians from stepping on ants on the sidewalks would be as reasonable as one providing that guinea-pigs must be chloroformed before receiving hypodermic injections."

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EDITORIAL

STREET NOISES

A WISE crusade against the incessant and often avoidable noises of city streets has lately been started by the daily press. It is to be hoped that this will be kept up until some permanent relief is obtained and until some of the offensive noise-makers have learned that they are trespassing on the rights of their fellows. As long as such noises are unnoticed and unopposed, they are bound to become worse and worse. The noise-makers are, as a rule, unconscious of any wrong-doing when making night and day hideous for their fellow mortals. There are as yet very few people in this world who continuously seek to check their own conduct by the persistent inquiry of "What will be the effect of this act upon others?" The usual test of conduct with the majority is custom. If it is the habit of others to do certain acts they are at once deemed correct, and no further inquiry is thought necessary. Where an act is done for the first time, if permitted by others without protest, or with merely a mild protest, it is apt to be repeated again and again. The precedent thus established cannot be easily stopped, and once people have become used to it they notice it less. Soon another innovator comes along who carries the objectionable act a step farther, endures the mild protests of the few sensitive or sensible ones as his predecessors did before, but, in spite of this, no positive effort having been made to stop him, it too becomes justified by habit and the wrong goes on. Through such successive stages all kinds of public wrong grow upon and are fostered by a community until by cumulation so large a proportion of the people suffer and the suffering is so intense that it is unendurable. In the case of noise-making the offenders go ahead innocent of any intentional wrong-doing. They only think of their own welfare or pleasure. The thought that any person is injured or annoyed by them never enters their heads. When the same persons come to suffer in a bed of sickness and are unable to secure the sleep necessary for their recovery they may begin to realize some of the results of their past conduct, but not before. It almost seems as if many well people think that the sick have no right that they are bound to respect. It is said to be the last straw that breaks the camel's back, and it is certainly often the last noise that leads to the death of our patients. The sleep of the sick is usually at best light, and any sudden noise is sure to disturb it. Often such sleep is the turning-point toward health, and to have it suddenly cut short by some noisy street brawler is to sacrifice a life. Even when awake many patients are kept in constant agony by the continuous round of city noises, and though the well may become immune to their influence under ordinary circumstances, yet if an unusual strain comes upon them they too are sure to suffer severely. In cases of insomnia, headache, and nervous diseases generally, noise in any form is decidedly intolerable and may lead to insanity or the suicide of the sufferer. During the sultry and short nights of summer but few persons get as much sleep as they should, and yet at this time of the year some of the most barbarous noises are at their worst. It is on such nights that the caterwaul of the backyard cat is the fiercest, and it is then that the small boy with his fire-crackers makes night hideous. Both such nuisances can and should be suppressed, as there is no reasonable excuse for the existence of either. If people must keep cats let them see to it that they do not become public nuisances. If patriotic boys or men must explode fire-crackers for a month before and a month after Independence Day, let them go into the country away from any house to do so, and if the Fourth must be celebrated in this manner in the cities, it should be illegal to begin such celebrating before 9 A. M. or to continue later than 9 P. M. In noises associated with business there is a constant tendency for some of them to get louder and louder.

It frequently seems necessary for the noise-maker that his noise should rise above all the rest to be heard to his satisfaction. Amid the clamor of unusually noisy streets the gentle tinkle of a small musical bell would be deemed inadequate as an alarm on a trolley-car, and so the loud clang of the gong has been substituted. Until the other noises are subdued, the ear-damaging trolley-gong is likely to remain. Our city authorities are logically handicapped in any fight that they may make against noises in that they are to a large extent responsible for some of the worst of them—our street pavements, for example. When Byron, in his poem on the Battle of Waterloo, makes the dancers at Brussels mistake the cannonading for "the cars rattling o'er the stony streets," he showed what a nuisance this kind of a noise is. If it were once subdued, all the rest would soon disappear, since its presence makes them seem trifling. Pave our streets with asphalt and we shall soon have rubber tires on vehicles and rubber-protected shoes on horses. This will remove the continuous din and awaken the sensibilities of all to the evil of other noises. Rattling milk-cans, tooting horns, shrieking whistles, buzzing trolley-wheels, clanging bells, screeching peddlers, caterwauling cats, bawling louts, creaking hinges, and the many other such nuisances in the form of misery-producing noises, would at once appear as if emanating from a megaphone and frighten their producers. The rattle of wheels on the stony streets is the extra dark background to this dark picture. Remove it and the others, if they do not disappear from sheer shame, will appear so intolerable that everybody will cry out against them.

These cobble and block streets are incessant menaces to health in more ways than this. They harbor disease-germs as asphalt streets could not do, and they multiply cases of spinal disease and hernia among truck, wagon and 'bus drivers who are compelled to travel over them daily. It is only short-sighted economy that causes us to continue from year to year to endure them.

To save a dollar in taxes we spend ten dollars in replacing or repairing worn-out carriages, trucks, carts, or wagons. It would pay in dollars and cents, as well as in health, to asphalt the streets of every city.

A DEPARTMENT OF PUBLIC HEALTH

ALL great interests of the nation wherein it has relationship with other powers or in which interstate rights are involved should and must eventually have distinct representation among the cabinet officers at Washington. Already most of these interests are so cared for. General State matters are in the hands of the Secretary of State. Monetary affairs are looked after by the Secretary of the Treasury, the army and its interests are cared for by the Secretary of War, the Navy has its Secretary, the Post-office is remembered in the same manner, such internal affairs as pensions, patents, education, the census, the Indians and Public Documents have their Secretary of the Interior, legal matters are looked after by the Secretary of Justice and Agricultural interests are looked after by a Secretary of Agriculture. Though health and life are of more importance than all the rest there is no Secretary of Health. This is wholly due to the fact that medical men lack public spirit and do not look properly after their own interests. They now have an opportunity to redeem themselves in this by rallying to the support of Senator Mallory, who is seeking to have established a Department of Public Health. Every medical man in the United States should take an interest in this effort and try to further it. It is meeting with some opposition from the public press, but this can easily be stopped if a large proportion of the medical men in each community will use their influence with the editors and their friends. The Philadelphia *Public Ledger* of July 9th opposes Senator Mallory on what we deem rather strange grounds. Speaking of his proposed new department the *Ledger* says that it "seems to be less needed now than at any previous time, and likely to be required less as time rolls on, medical science improves, and popular interest in sanitation increases. Years ago, when cholera, yellow fever, and smallpox were frequent visitors and other epidemics were constantly feared, there might have been some wisdom in creating a national department of hygiene, with the necessary authority to protect the people against disease; but we got along without it then, and we can do so much more easily now, when quarantine surveillance is so efficient that it is almost impossible for an epidemic to be imported, and when municipal and private sanitation is so well observed that such diseases could scarcely find lodgment if they did come into port. In a word, all the usefulness that could be accomplished by another cabinet officer in this respect appears to be very well done already by existing appliances and regulations, and therefore there seems to be no reason for burdening the Treasury with the expense of another administrative department, with its inevitable army of clerks and other employés." Medical science improves as knowledge increases. It is the increase in knowledge that has brought about the improved sanitary conditions to which the *Ledger* refers. A Department of Public Health trying to arrest the progress of an epidemic without a knowledge of bacteria would be an amusing spectacle. In the past we had no use for such a department because it would not have known what to do. Anything that it might have tried to do would have been just as likely to do harm as good. The editor of the *Ledger* might well have said that we got along better instead of just as well without it. Concerning his claim that all the usefulness that could be accomplished by another cabinet officer appears to be well done already, we can only say that it may appear so to laymen who lack data on which to reason but it does not to medical men who have made a study of the subject. Before the days of railroad trains, sewing-machines, telegraphs, steamboats, harvesters, and all other modern improvements, there were multitudes of people that thought the same of them. They believed that the work was well done without them. No one thinks so now, because everybody has had a demonstration to the contrary. At present medical men have but a faint conception of the extensive field of usefulness that would surely open up for such an officer to do. State and municipal boards of health are at present usurping the functions of such a department in a way that is likely yet to be challenged as to its constitutionality. Goods consigned to one State are fumigated and damaged in another while in transit. Some day an over-zealous functionary may start the question of the utility of his work and the question of the right of his State to do such work be challenged. As population increases and factories of various kinds multiply along streams questions regarding the pollution of such streams are sure to arise. Where they pass through two or more States, and where many cities take their water-supply therefrom the question as to who is responsible for such pollution is sure to arise. The State that refuses to enforce proper sanitary measures will thus be a menace to the States below it on the stream, and without a Department of Public Health there will be no proper authority to refer such disputes to for proper adjustment. States are ever sure to impose on States in sanitary matters just as individuals impose on individuals, in the same direction. When epidemics of disease threaten us from abroad we seldom have intelligent co-operation among all the State boards of health in fighting them back. The editor of the *Ledger* is too certain of the prowess of these bodies. Some day he may awake to a full realization of their lack of efficiency because of their divided interests. When we find the health officers of one port seriously accusing those of another of having sold themselves to a shipping company to violate the quarantine laws and endanger the country with yellow fever, we are likely to begin to doubt their efficiency. As long as we are menaced with diseases from abroad and know how to protect ourselves from such diseases, so long should our protection be the best that the government can supply. In the not distant future we are likely to undertake the extinction of some of our most contagious diseases by preventing their being spread. The State that starts so meritorious a reform is likely to have its plans thwarted by neighboring States whose citizens take no interest in such work. They will continue sowing the seeds of disease again as fast as extermination goes on.

Bacteria have no more respect for State lines than has thistle-down. As it would be useless for Ohio to attempt to exterminate the Canada thistle without the action of a National Department of Agriculture, so it would be equally useless for the same State to try to exterminate scarlet fever without the aid of a National Health Board.

Only by having a department of Public Health could so desirable a measure hope for success. It could protect each State against the transmission of contagion from all other States and against foreign nations. The grand work of sanitary science has scarcely begun and nothing could foster and advance it so much as a Department of Public Health. If the study of disease as related to animals is worth supporting by the government then the study of disease as related to man is certainly of equal importance. If Dr. Salmon can do such good work as he has done in the last fifteen years with a Bureau of Animal Industry we certainly have other medical men who could do equally as well in a Department of Public Health.

AMONG THE EDITORS

PROFESSIONAL ADVERTISING

The leading newspapers of the country every day contain letters signed by medical men, distinguished and otherwise; they have reviews of medical works, scientific and non-scientific; and their advertisement columns are never free from heavily paid notices of books. Who, then, in this case, is to apportion blame, and to demonstrate to the medical profession at large, the reason why, using a homely phrase, that which is sauce for the goose should not also be sauce for the gander? Why, for example, Mr. Jones, the humble licentiate of a back street, should not publish and advertise a book on gouty dyspepsia, when Sir Peter Smith, the President of Jones' College, takes similar measures to make the world acquainted with the merits of his ponderous treatise upon modern medicine. The mere fact of the one man having written a bad book and the other a good one cannot affect the principle involved in the main question, as to whether it is right or wrong for a medical man to advertise professional works in lay newspapers. The excuse sometimes put forward by delinquents that the publishers are alone responsible for such actions is worthless. It is equal to saying they themselves have no control over the publishers in what, if we are to believe theory rather than practice, is a point vital above all things to the high professional repute of the medical man. Quite recently a London specialist took advantage of the forthcoming Diamond Jubilee to scatter his name broadcast over the face of the land. The royal procession was to pass a certain hospital, the authorities of which naturally wished to turn an honest penny out of the position they were lucky enough to occupy along the line of route. They accordingly issued a circular advertisement, in which many facts concerning the wants, wishes, and aspirations of the hospital were duly set forth, and plans and prices of seats appended. Outside the envelope, beneath the name of the hospital, was a fac-simile signature of one of the surgeons of the institution, as it were, franking the document. If ever there was a bold advertisement of a name, in a manner contemptuous of every canon of the unwritten code of the profession, there it stood recorded. But such a matter is no one's business, and no more notice is likely to be taken of it than that contained in a passing comment such as the present. Why should not the general Medical Council and the colleges make some general law dealing with the more blatant forms of self-advertisement? Then we should have, at any rate, some formulated basis for regulating these things, instead of trusting, as we do at present, to the chaos of an irresponsible standard that is no standard, and that simply invites a cynical conflict between precept and practice.—*Medical Press and Circular.*

CHANGE OF AIR

For centuries it has been known that change of air is one of the most valuable therapeutic agents, useful not only for the actual cure of certain diseases, such as phthisis, asthma, intermittent fever, whooping-cough and hay-fever, but also for the promotion of convalescence from an exhausting illness. Much ingenuity has been exercised in explaining how this change of air operates for good, but a really satisfactory way of accounting for all of the phenomena involved is still lacking. Medical men are undoubtedly easily satisfied when it comes to the matter of furnishing explanations for things, and are seldom inclined to insist upon too rigid an application of logical tests; for in dealing with diseases and their remedies they come into contact with so much more of the unknown than of the known, that they become accustomed to accepting facts without insisting upon accompanying explanations.

In former times it was the custom to seek warm and sheltered places as health-resorts. Sea-air was supposed to be too harsh in cold climates, and on mountain tops the air was considered too rare and of too low temperature for the invalid to be benefited. There was an especial prejudice in favor of the air in which the sick person was born, and as a last resort the physician would send a patient to his native place, in most cases, it is to be feared, to die. The warm, moist climate of the Madeiras was considered the ideal resort for the consumptive, and when the first sufferers from this disease went to the Alps, they did so in the face of solemn warnings from the medical profession that the change would be disastrous. But in these latter days it has been found that change to cold, dry places and to high elevations has produced some of the best results in the climatic treatment of phthisis.

If there were any uniformity in the relation between disease and change of air, that is if any particular kind of change were always advisable when relief was sought from a given affection, the explanation of the good effects produced might be easy. But there is no such uniformity. For instance, take the so-called hay-fever, a disease upon which the appropriate change of air produces so rapid and pronounced an effect that the cure is sometimes almost instantaneous. Sufferers from this disease in the New England and Middle States find in the White Mountains, and especially in the particular mountain known as Jefferson Hill, a spot where they become at once entirely free from their troublesome malady. The accepted explanation of this used to be that the plant whose pollen was supposed to cause hay-fever did not grow on Jefferson Hill. Now that the pollen theory has dropped into the background to give place to germs, it might be said that the germ of hay-fever could not flourish in the atmosphere about Jefferson Hill.—*Northwestern Lancet.*

OUT UPON THE SPITTERS!

Could every layman who walks the streets of the different cities of these United States and with reckless abandon deposits his salivary secretion wherever and whenever his convenience dictates, be afforded one or more opportunities of looking at his sputa under the microscope, and at the same time be instructed as to the virulence and menace to health of the germs often seen contained therein, we are sure that the most of the aforementioned good citizens would promptly recognize the importance and necessity of a more careful regard to the proper disposal of their expectorations, thereby tending to conserve the health of their fellow townsmen. It is an oft-told story, but one of such exceeding import that every physician should seize opportunities to impress it upon his clientele, that the most destructive to the human family of modern diseases is consumption—a germ-caused disease, and one the bacilli of which are borne upon the breezes and wafted from place to place, lodging in the nose of the passer-by, whence they are at times drawn into the lungs—there, favorable soil presenting, developing a disease for which the hand of science, progressive as it is, has as yet failed to find a cure. . . . Is it not, then, a commendable habit that the German bacteriologists are teaching their people—to spit in the handkerchief, which, being boiled in the wash, kills all the germs? The boards of health of New York, Philadelphia and Boston have been actively aggressive in their warfare upon the spitters, and it is now a misdemeanor to spit upon the floors of the street-cars of those cities, and here in Memphis the street-railway company has requests in the form of cards bearing the inscription, "Please don't spit on the floor," conspicuously posted in its cars; but no effort to suppress this pernicious custom can be effectually carried out without the hearty co-operation of the entire public.—*Memphis Med. Monthly.*

THE SLAUGHTER OF INNOCENTS—DEATH IN RUBBER TUBES AND NIPPLES

The warm season puts our theories of infant hygiene to the severest test. The laws of prevention stand, but many little ones fall. The discrepancy between precept and practice is represented by hundreds of death certificates; summer complaint, cholera infantum, then the weeks of colicky pains, retarded development and disrupted domestic affairs.

The failure in application of the principles of prevention of gastro-intestinal disorders is due to the ignorance of mothers and the lack of the proper recognition and enforcemen by local and State health boards of a very simple and commonplace health law. The profession are unanimous in condemnation of rubber nipples and tubes in connection with infant feeding-bottles. In many cities the sale of such apparatus is forbidden by law. It is a sad commentary on our common sense and judgment that legal restrictions must be invoked upon that against which every kind of moral restriction has for a long time been placed. Let one of these mothers feed through a sour nipple or tube for a few days and which side of the question would she take? She would not long wilfully place herself in antagonizing the teachings of preventative medicine.

Thousands of infants are very sick annually but the death-rate is no higher than might be expected. Our grandmothers knew that milk must be allowed only in the the cleanest of clean vessels, and yet their daughters have blindly used this unwholesome substitute—this unnatural method we should say—in feeding their offspring, and then by anxious hours of most exhausting nursing, and too often months and years of sad lamentation, paid the penalty of infringement of one of nature's most simple laws.

Nature is neither kind nor cruel. She is simply consistent. The facts are very plain and easily comprehended. To put it briefly: It is not possible by the ordinary methods to keep milk-soaked rubber clean. There is oil enough in milk to soften rubber, and the germs and products of fermentation cannot be removed from tube and nipple except by processes that rapidly destroy rubber. The only way is to banish the apparatus from the nursery. Municipal law must be invoked to prevent their sale. Druggists and vendors must be cautioned and even prevented from selling to those ignorant of the danger.—*Toledo Med. and Surg. Reporter.*

THE TRAINED NURSE

Motion without friction is no less possible than reform or improvement without opposition. Some people are chronic objectors. Their minds get rusty as an old screw in a wet plank, and every little twist results in a disagreeable squeak. If the gates of heaven were opened wide, and every soul offered free *entrée*, with the privilege of eternal occupancy, some one would hesitate and inquire if the proprietor had salt that he might use in sprinkling on the fowl's tail in order to capture the bird of Paradise.

The *Nineteenth Century Magazine* has recently been publishing an argument on "Nurses à la Mode," in which no less a person than Lady Priestley takes a decided stand against these modern innovations, and charges the trained nurse with the crimes of giddiness, thoughtlessness, lack of sympathy, incompetency, and other things.

The truth is, opposition or no opposition, the trained nurse has come to stay. In modern medicine and surgery, she is a necessity, and the field of her usefulness is greater than would at present appear. Yet certain things are required of her. She must in a strict sense be *trained*, and when this training is carried out in the proper way, in places authorized and prepared for the purpose, nursing will become a profession, and nurses will be licensed.

It does not follow that a nurse is educated and competent because she has served a year or so in some hospital, witnessed a few operations, administered a few bottles of medicine, washed some soiled instruments, put a pinning blanket on a baby, and learned not to say "Oh," or faint at the sight of blood. We refer to nurses as feminine, because most nurses are women, and it is to woman that such work chiefly belongs.

The woman who begins the study of nursing should be not less than eighteen, nor more than thirty years old. She should be strong, of good physique, at least not bad-looking, of more than average intelligence, and possesses a patient, quiet, and cheerful disposition. Two other mental qualities absolutely requisite are firmness and obedience, the former to be used in handling patients, the latter in following the instructions of the physician. The trained nurse up to this time has been objected to by many, and physicians, too, because she "knew too much." A little learning is dangerous, you know. She has seen a few things under one physician and concludes she knows everything under all physicians. She has to learn that different physicians do things differently, and if her experience is not wide enough, her mental make-up must be sufficiently liberal to allow her to follow directions intelligently and loyally.—*Pacific Med. Jour.*

ANTIVIVISECTIONIST SENTIMENTALITY AND BRAIN DEFORMITY IN THE DEGENERATE

A degenerate sexual pervert recently executed for lust murder, at Paxton, Ill., has had his mental soundness doubted because of his sentimental kindness toward animals. Sentimentality of this type is exceedingly common among criminals and other degenerates about whose legal responsibility no true alienist could entertain a doubt. They have both a knowledge of right and wrong with a power of self-control, which alone would be sufficient evidence of responsibility under the true legal test which depends on whether freedom of the will be impaired. Despite the assertions of the antivivisectionists, misanthropy is often associated with great love for the lower animals, and the races characterized by their great tenderness toward animals are the most cruel toward men. This was singularly well illustrated in the Sepoy rebellion, where fanatics indignant at the killing of cows, butchered men, women, and children with horrible atrocity. The same thing is illustrated in the suspicional world-betterers who so marred the French Revolution. Couthon, one of the most merciless of "the Committee of Public Safety," was very much devoted to spaniels. Chaumet exceeded female sentimentality in his tenderness to his birds. The murderous Fournier carried on his shoulders a pretty little squirrel attached by a silver chain. Panis was intensely devoted to his pheasants. Marat reared doves. Sergent, another agent of the Reign of Terror, was also devoted to spaniels. A lady came to implore his protection for a relative confined under sentence of death. He scarcely deigned to speak to her. As she retired in despair she trod by accident on the paw of his favorite spaniel. Sergent, enraged and furious, exclaimed, "Madam, have you no humanity?" It may seem, as Havelock Ellis remarks ("The Criminal"), a curious contradiction of what has been set down concerning the criminal's moral insensibility, his cruelty and his incapacity to experience remorse when it is added that he is frequently open to sentiment. It is however true. Whatever refinement or tenderness of feeling criminals attain, reveals itself as what we should call sentiment or sentimentality. Their cynicism allies itself with sentiment in their literary productions. Their unnatural loves are often sentimental as revealed in the character of the tattoo marks. Two interesting examples of criminal sentiment have recently been recorded by Dr. Lindau. A German criminal (it is perhaps as well to note that he was a German) having murdered his sweetheart most cruelly, went back to her house to let out a canary which might suffer for want of food. Another, after having killed a woman, stayed behind to feed her child which was crying. Lacenaire, on the same day that he committed a murder, risked his own life to save that of a cat. Bulwer recognized this principle when he depicted Eugene Aram as very indulgent to animals. Wainwright was always very fond of cats. In his last days his sole companion was a cat, for which he evinced extraordinary affection. One of the chief characters of Wainwright's essays is their sentimentality. Himself when in prison he described as the possessor of "a soul whose nutriment is love, and its offspring art, music, divine song, and still holier philosophy." All prisoners make a pet of birds or animals or flowers if they get the chance.

In the brain of the degenerate, to whom reference is made, the cerebrum was said to be abnormal because it did not cover the cerebellum. This condition of things was alleged by Benedict of Vienna ("Brains of Criminals") to characterize the brain of the criminal. It has been demonstrated, however, conclusively by Spitzka (*American Journal of Neurology and Psychiatry*, Vol. I) that this non-covering of the cerebellum by the cerebrum in man and the anthropoid apes was not due to any condition of deformity but to careless manipulation. If therefore this condition be found in the degenerate to whom reference has been made, it is due purely to an erroneous necropsy and in no respect is an evidence of either irresponsibility or degeneracy.—*Jour. Amer. Med. Asso.*

SELECTED PAPER

INTERNAL SECRETIONS, CONSIDERED FROM A CHEMICO-PHYSIOLOGICAL STANDPOINT *

By PROF. R. H. CHITTENDEN, of Yale University

IN considering this subject from a chemico-physiological standpoint, allow me at the outset to emphasize the fact, now well established, that the symptoms which follow the simple removal of a physiologically active gland from the body result wholly from the loss of the gland. You may recall that when attention was first drawn to the possibility of producing the typical symptoms of myxedema in monkeys by removal of the thyroid gland there was a tendency to assume injury to the sympathetic or other nerves of the neck as an explanation of the phenomena, rather than to admit the possibility even of a general or limited disturbance of the metabolism of the body through chemical changes associated with removal of the gland. It was not until the experiments of Murray made clear the fact that the effects resulting from the removal of the thyroid in man could be overcome, in part at least, by administration of the gland-substance that scientific investigation took the proper turn and a full realization of the possible importance of the so-called ductless glands and their internal secretions began to dawn upon the mind. To-day, however, we recognize their functional activity as a necessary element for the welfare of the body. Their removal, or any impairment of their function, may produce even more disturbance of physiological equilibrium than a corresponding disarrangement of glands formerly considered of greater physiological value. Further, it needs to-day little argument to support the view that such power as these physiologically active glands possess is due to definite chemical compounds elaborated by the glands as products of their individual secretory or metabolic activity. As with other glands having more obvious functions, the secreting cells plainly manufacture certain specific products, but in the case of the internal secretions these products find their way into the blood and lymph, by which they are distributed throughout the body, and thus made available either in controlling or regulating the general nutrition of the economy or to serve some more specific purpose of equal importance for the welfare of the organism. This being so, it is equally probable that in the general and specific metabolism going on in all the tissues and organs of the body the various products formed and absorbed by the blood and lymph may contribute somewhat to the welfare of the body prior to their excretion. In its broadest sense, therefore, internal secretion must be looked upon as something common to all active tissues, the ordinary katabolic products of both circulating and morphotic proteids, for example, no doubt exerting some physiological action during their transit from the place of their formation to the organ which serves for their excretion. It is well, perhaps, to give full recognition to this possibility, for physiological equilibrium in the broadest sense is clearly dependent upon the harmonious action of a large number of related parts, and experiment only can determine, and perhaps then imperfectly, how far the products of one gland or tissue are essential for the well-being of the whole. We know, however, that certain organs with the products they elaborate can be dispensed with, while the removal of other organs involving no greater surgical interference is quickly followed by marked disturbances and later by death. Czerny had no difficulty in removing the stomach from dogs, the health of the animals remaining unimpaired when the esophagus was properly joined to the intestine. Similarly, Schäfer and Moore[1] have recently shown that both parotids and both submaxillary glands may be removed from the dog without any disturbance of nitrogenous metabolism, or without any apparent effect upon carbohydrate digestion. Evidently these glands do not possess any intrinsic internal secretion necessary to the life of the animal or having any important action on the metabolic processes of the

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[1] Proceed. Physiol. Soc.; Journal of Physiol. Vol. 19, No. 4.

body. If they do furnish an internal secretion it obviously must be one common in function to that supplied by some other organ. In the present discussion, therefore, we may advantageously limit the term "internal secretion" simply to those specific products which, being manufactured in certain definite glands, are plainly endowed with well-defined physiological action.

Let us first consider the thyroid gland upon which more work has been done than upon any other similar structure. Dating from 1883, when Kocher and Reverdin published their well-known observations on the effects of thyroidectomy in the human subject, it has gradually become apparent that there are two distinct ways in which the effects of the operation may be manifested.[2]

Thus, in some animals, as in most carnivora, complete removal of the thyroidal tissue is followed by a rapid development of symptoms indicating a marked irritation of the nervous and muscular systems as manifested by tetanus, epileptiform convulsions, etc., terminating in death. In other cases slowly developing changes are observed corresponding to myxedema. Hence, in some animals thyroidectomy is followed by such a marked disturbance of physiological balance that death results very quickly, while in others the development of symptoms is very slow, giving rise to chronic effects which may endure for months. Evidently, aside from the more acute and toxic effects which may immediately follow the operation, there are more gradual disturbances of metabolism which eventually lead to the complete breaking down of the animal. That the symptoms thus produced are dependent upon the withdrawal from the system of certain specific products is evident from the fact that after extirpation of the thyroidal tissue the mere feeding of thyroid glands, or the subcutaneous and intravenous injection of thyroid extracts, suffices to dispel quickly the myxedemal swellings, the rough thickened condition of the skin, the muscular and mental apathy, etc.[3]. With dogs the convulsions which follow extirpation of the thyroids are quickly checked by the subcutaneous injection of thyroid extracts. Experiments along these lines with extracts of dead tissue have, as you know, made it very evident that the thyroid gland forms some one or more specific substances, the absence of which from the body sooner or later renders life impossible. Where, however, the animal, as a dog, is provided with accessory thyroids the entire thyroid gland may be removed without death resulting, providing one of the parathyroids is left, but if both parathyroids are excised then 40 per cent. of the thyroidal tissue proper must be left in order to have the dog live.[4] Evidently, the thyroids and accessory thyroids have more or less of a common function, the one being able to fulfil the purpose of the other to a certain degree; a fact which in itself may be taken as evidence of the importance of thyroidal tissue and the care exercised by nature in preventing a complete suppression.

The very nature of the physiological results which follow the removal or accompany the atrophy of the thyroidal tissue suggests the formation of one or more toxic substances to which the well-marked symptoms are due; substances which are either not formed in the presence of thyroidal tissue or else being formed are either neutralized (physiologically) or decomposed and rendered inert by substances furnished by the thyroid gland. Such a view obviously implies a difference in the character and possibly in the extent of the metabolic changes going on in the body, and we may, therefore, advantageously consider the character of our knowledge upon this subject. A careful study of the literature shows quite clearly that certain definite statements are justified. Thus, Leichtenstern and Wendelstadt[5] found by feeding thyroid glands to healthy obese individuals that a marked loss of body-weight resulted.

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[2] Compare Roos: Ueber die Einwirkung der Schilddrüse auf den Stoffwechsel nebst Vorversuchen über die Art der wirksamen Substanz in derselben Zeitschr. f. Physiol. Chem. Band 21, p. 19 This paper contains numerous references.

[3] See Kent: Thyroid extract after Thyroidectomy. Proceed. Physiol. Soc.; Journal of Physiol. Vol. 15. Also Meltzer: Ueber Myxödem. Centralbl. f. Physiol. 1894, p. 698.

[4] Edmunds: Observations on the Thyroid and Parathyroid of the Dog. Journal of Physiol. Vol 22. Proceed. Physiol. Soc June 27. 1896.

[5] Ueber Myxœdem und Entfettungskuren mit Schilddrüsenfütterung. Deutsch. med Wochenschr. 1894. No. 50.

Roos,[6] experimenting with normal dogs, observed that in feeding the gland-substance for several days there was a marked increase in the excretion of nitrogen through the urine, also of sodium chloride and of phosphoric acid ($P_2 O_5$). On dogs with the thyroids removed, this action was still more marked, so far as the excretion of nitrogen and chlorine was concerned, also in the loss of body-weight and in the excretion of water, but the excretion of phosphorus fell behind the normal. Further, in an experiment with a goiter-patient, otherwise healthy, Roos observed on feeding thyroid glands a similar tendency toward increased excretion of nitrogen and chlorine with a marked increase in the output of phosphoric acid. Mendel, Napier, Ord and others, making observations on myxedema patients, likewise noted that the use of thyroid preparations by subcutaneous injection, by glycerin extracts, etc., as a rule, not only led to a betterment of the symptoms, but give rise to a marked diuresis, loss of body-weight and increased excretion of nitrogen or urea. Denning,[7] likewise, found that while different individuals reacted somewhat differently under thyroid-feeding, yet there was a general tendency toward increased excretion of nitrogen as well as a loss of body-weight. It was also noted that the excretion of nitrogen and urea was not always parallel. Occasionally albumin and sugar appeared in the urine. In one case the volume of urine excreted rose at once 200 c.c. per day, the pulse-rate increased 22 per cent., while the nitrogen excreted rose 15 per cent. during the feeding period. Similarly, in Basedow's disease, Scholz[8] observed under the influence of thyroid-feeding in a patient 29 years old diuresis increased excretion of nitrogen and sodium chloride with a marked decrease in the excretion of phosphoric acid. Magnus Levy[9] likewise records that a healthy individual taking thyroid tablets for 19 days lost 7 pounds body-weight with some increase in O_2 and CO_2 exchange. In three cases of Basedow's disease, on the other hand, oxygen consumed and carbonic acid excreted were greatly in excess of the normal. Fritz Voit,[10] by carefully conducted experiments on healthy dogs, found that the feeding of fresh thyroid glands produced a marked increase in the output of carbonic acid as well as of nitrogen. Michaelson[11] found after extirpation of the thyroid in hungry cats the CO_2 excretion increased, while J. L. Smith[12] has observed that when thyroidectomy is performed on cats there is a marked disturbance of the heat-regulating mechanism.

From these and other observations that cannot be recorded here it is very plain that the administration of thyroid gland and thyroid extracts to normal individuals, and especially to thyroidectomized animals and individuals in whom the thyroid glands are diseased, produces a very noticeable effect upon the metabolism of the body, leading to a marked loss of body-weight, an increased excretion of water, nitrogen and carbonic acid, and also of sodium chloride. This great diminution of body-weight is by no means due wholly to loss of water nor to removal of fat, for if a healthy individual is fed upon a diet rich in fats and carbohydrates the well-known proteid-sparing power of the latter foods is not able to keep down the loss of nitrogen when thyroids are administered. Proteid material is still broken down in increased quantity, and not from any individuality of the person experimented upon, but plainly under the exciting influence of the thyroid.[13] The gland-substance evidently causes an increased decomposition of the tissue-proteids, thus showing a certain resemblance to the action of phosphorus on the organism (Roos). At the same time the loss of body-weight under thyroid-feeding is far greater than can be accounted for by the increased proteid decomposition, from which, in conjunction with the increased gaseous exchange, we must infer an increased breaking down of fatty tissue in accord with the prevalent idea that thyroids tend to reduce obesity. This, furthermore, is in harmony with the well-known fact that increase in proteid metabolism is almost invariably associated with increase in the metabolism of non-nitrogenous matter.

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[6] Loc. cit.

[7] Ueber das Verhalten des Stoffwechsels bei der Schilddrüsentherapie. Münchener med. Wochenschr. 1895. No 17. Also No. 20.

[8] Ueber den Einfluss der Schilddrüsenbehandlung auf den Stoffwechsel des Menschen insbesondere bei Morbus Basedowii. Centralbl. f. innere Med. Band 16, p. 1041 and p. 1069.

[9] Ueber den respiratorischen Gaswechsel unter dem Einfluss der Thyreoidea, sowie unter verschiedenen pathologischen Zuständen. Berliner klin. Wochenschr. 1899, p. 650. See also Richter: Zur Frage des Eiweisszerfalles nach Schilddrüsenfütterung. Centralbl. f. Physiol. Band 10, p. 49. Also Ducceschi: Beitrag zur Erforschung der Stoffwechselvorgänge bei thyroidectomirten Thieren. Ibid. Band 35, p. 217.

[10] Stoffwechseluntersuchungen am Hund mit frischer Schilddrüse und Jodothyrin Zeitschr. f. Biol. Band 35, p. 116.

[11] Jahresbericht f. Thierchemie. Band 16, p. 335.

[12] On some effects of Thyroidectomy in animals. Journal of Physiol Vol. 16, p. 378.

[13] Bleibtreu und Wendelstadt. Stoffwechselversuch bei Schilddrüsenfütterung. Deutsche med. Wochenschr. 1895. p. 348.

The significance to be attached to this increase in proteid metabolism, however, is, I think, something more than a mere quantitative one. The very fact that there are quantitative changes renders it quite probable that there are also qualitative changes, and that the presence or absence of the thyroid gland or its equivalent from the body may modify the *line* of metabolism. Upon this point, however, we know very little; we simply infer. Still there are some facts in connection with the proteids of the blood which are worthy of a moment's consideration. Thus, it has been shown by comparison of the proteids of normal dog's blood with those present in the blood after extirpation of the thyroids that in the period preceding the convulsions the percentage amount of serum-albumin is increased and the globulins decreased. In the second period, on the other hand, when the cramps or convulsions appear up to the end, there is a progressive increase in the amount of globulin and a decrease of serum-albumin as well as of the total proteid. Hence, there is at first an increase and then a decrease of the albumin quotient. From this it would appear that in the first stages there is an abatement of the metabolism of the tissues, followed by an increase, and that possibly in the incomplete breaking down of the proteid material intermediate toxic products appear which are the cause of the cachexia.[14] Further, according to Formánek and Haskovac,[15] in the thyreopriva cachexia, resulting from the extirpation of the thyroids in dogs, the number of red blood-corpuscles is systematically diminished, while the leucocytes are increased, and the dry residue of the blood as well as the iron and hemoglobin are diminished. In connection with the diminution of hemoglobin there is an acceleration of respiration and of the pulse, which, however, in the terminal stages of the cachexia diminishes. The iron liberated by the decomposition of the red blood-corpuscles is deposited in the organs of the body, especially in the spleen and lymph-glands. If the blood is taken for examination during a convulsive seizure, on the other hand, it shows a reversal of the above conditions; it is thicker, contains more solid matter, as well as iron and hemoglobin. If extract of the thyroid is injected into the operated animal there is an immediate increase in the number of red corpuscles and a betterment of the animal's condition. Hence, the thyroid is evidently concerned in hematosis, and it is quite possible that the decomposition of the blood which takes place induces certain alterations in the formation of the end-products of metabolism, so that poisons result which give rise to intoxication of the organism. Just here it may be mentioned that some recent observations on the feeding of thyroids in insanity tend to show that the percentage of the small mononuclear cells or lymphocytes of the blood is increased while the multinuclear neutrophiles are correspondingly diminished under the action of the drug, thus suggesting that the gland-tissue or its active principle has a direct stimulating influence upon those tissues of the body directly concerned in the production of the lymphocytes, viz., the lymphatic or adenoid tissues.[16]

In addition to these changes, emphasis must be laid upon the apparent connection between the thyroid gland and phosphoric-acid metabolism. Thus, the increased excretion of P_2O_5 after feeding thyroids to normal animals, and the great decrease in the case of animals with the thyroids removed, is naturally suggestive. The facts may be explained in two ways: either the metabolism of phosphoric acid and its excretion are retarded in the absence of the gland, so that there is a retention of P_2O_5 in the body, or else the organism can assimilate sufficient phosphoric acid only in the presence of the substance or substances furnished by the thyroid gland (Roos). It has been suggested, as you know, that the activity of the thyroid gland is a toxic one, but that this action is normally paralyzed by some one or more products of its own metabolism. The view that in the absence of the thyroid gland not enough P_2O_5 can be assimilated for the wants of the body finds a certain degree of confirmation in some of the symptoms noticeable in cretinism and myxedema; viz., the retardation in bone-development and the slow calcification in cretinism. On the other hand, the tendency toward tetanus might perhaps be explained on the ground of an acute P_2O_5 retention in the central nervous system similar to that of uremia; or, equally plausible, as due to a marked deficiency of P_2O_5 in this tissue. Thus, in Basedow's disease the observations of Kocher that administration of sodium phosphate leads to a marked betterment of all the symptoms are directly pertinent.

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[14] Beitrag zur Lehre über die Function der Schilddrüse, Jahresbericht f. Thierchemie, 1895, p. 375.

[15] Ducceschi: Ueber die Bluteiweissstoffe des Hundes im Verhältniss mit den Folgen der Schilddrüsenextirpation. Centralbl. f. Physiol. Band 9. p. 359.

[16] Perry: Some studies of the blood in Thyroid feeding in Insanity. *Medical Record*, August, 1896.

Further, we must not overlook the fact, clearly shown by Halliburton,[17] in connection with Horsley, that after thyroidectomy there is a distinct tendency toward an increase in the percentage of mucus in the tissues of the body, especially marked in the connective tissues and salivary glands. While this increase is not as great as at one time thought, it is still distinctly recognizable and affords additional evidence that the thyroid plays some important part in the katabolic processes of the body, and that when it is removed or diseased the normal chain or rhythm of metabolism is broken. As to the chemical nature of the products which are directly responsible for the results attending thyroidectomy or associated with a morbid condition of the thyroid we have no direct knowledge, and as to their physiological character we can only infer from the nature of the symptoms which result. It is to be presumed that the toxic products are formed not in the thyroid, but in the tissues of the body and as a result of perverted metabolism due to atrophy or alterations of the thyroid gland. The latter evidently furnishes something which either directly neutralizes toxic products common to the body, or far more probably prevents their formation through an influence upon the line of metabolism, or to give due weight to all the views which have been advanced, both suggestions may be correct.

What now is the chemical and physiological character of the protective products which thyroidal tissue evidently manufactures? To this question there are many conflicting answers; still out of the chaotic mass of material available I think it is possible to draw certain definite conclusions. In the first place it must be remembered that the epithelial cells of the thyroid gland apparently manufacture a so-called colloid secretion which evidently finds its way into the blood through the lymph, presumably carrying with it the active principles. This secretion obviously cannot be collected for study, but such active principles as it contains may be sought for in the gland itself, since we have every reason to believe in their ready solubility. By histological methods applied to sections of the thyroid it has been shown that the colloid matter gives the general proteid reactions, that it is very soluble in dilute alkaline fluids and readily dissolved by gastric digestion.[13] Our knowledge of the chemical composition of the thyroid gland, and hence presumably of the colloid secretion, is due mainly to the work of Bubnow,[19] Gourlay,[20] Notkin,[21] Moscatelli,[22] Fränkel,[23] and especially Baumann and Roos,[24] and Hutchinson.[25] To summarize briefly the present state of our knowledge, ignoring minor points of difference, I think it is quite clear that the thyroid gland is especially characterized by the presence of a compound proteid of peculiar constitution, and that this substance which Hutchinson calls "colloid matter" is the active constituent of the gland. There is also present another proteid, a nucleo-albumin, in small amount, which Hutchinson considers as probably contained in the cells of the acini. In addition there are certain extractives to be found, viz., xanthin, hypoxanthin, inosite,[26] volatile fatty acids, paralactic acid, succinic acid and calcium oxalate; bodies, however, of no special physiological significance.

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[17] See Halliburton's Handbook of Chemical Physiol., p. 505.

[18] Langendorff: Beitrag zur Kenntniss der Schilddrüse. Du Bois-Reymonds Archiv f. Physiol., 1889, Supplementheft, p 219.

[19] Beitrag zur d. Untersuchung der chimischen Bestandtheile der Schilddrüse den Menschen und des Rindes. Zeitschr. f. Physiol. Chem. Band 8, p. 1.

[20] The Proteids of the Thyroid and the Spleen. Journal of Physiol Vol. 16, p. 23.

[21] Zur Schilddrüsen-Physiologie. Virchow's Archiv. Band 114. Supplementheft. p. 224.

[22] Beiträge zur Kenntniss der Milchsäure in der Thymus und Thyreoidea. Zeitschr. f. Physiol. Chem. Band 12, p. 416.

[23] Thyreoantitoxin, der physiologisch wirksame Bestandtheile der Thyreoidea. Wiener klin. Wochenschr., 1895. No 48.

[24] Ueber das normale Vorkommen des Jyds im Thierkörper. Zeitschr. f. Physiol Chem. Band 21, p. 319 and 418. Band 22. p. 1

[25] The Chemistry of the Thyroid Gland and the nature of its active constituent. Journal of Physiol. Vol. 20, p. 474.

The chief interest centers around the above-mentioned proteid material, which is plainly of a peculiar kind, since it tends to hold a certain amount of iodine in combination and yields on decomposition a peculiar non-proteid substance carrying with it most, if not all, of the iodine and endowed with marked physiological action. This latter substance, to which Baumann has given the name of thyroiodin, later changed to iodothyrin, is especially characterized, chemically, by its great resistance to ordinary decomposing agents. Digestion of the thyroid gland with active gastric juice yields the iodothyrin as an insoluble residue, but still active. The gland can even be boiled an entire day with 10-per-cent. sulphuric acid without loss of the active principle, the latter separating from the cooled fluid as a fine flocculent precipitate almost wholly insoluble in cold water and acid, soluble in hot alcohol and readily soluble in dilute alkalies. When purified by repeated precipitation, re-solution, etc., the body may contain as much as 10 per cent. of iodine. In the gland, according to Baumann, iodothyrin exists in great part combined with albumin and in smaller amount with globulin, and these compounds are likewise physiologically active, although less so than the iodothyrin itself. The iodothyrin of Baumann is thus a non-proteid cleavage product of a more complex body, naturally present in the gland and characterized by containing both iodine and phosphorus (0.5 per cent.). Aqueous and glycerin extracts of the gland contain iodothyrin or the mother substance, although they do not take up all of the substance. Extraction of the gland with 0.75 per cent. sodium-chloride solution, frequently repeated, removes all of the iodine-containing substance, and the residual tissue has little or no effect upon goiter.[27]

That iodothyrin possesses all the peculiarities associated with thyroid-therapy is, I think, pretty thoroughly established. The experiments of Roos[28] upon animals, and the clinical observations of Leichtenstern and Ewald, have clearly demonstrated the physiological power of the substance. Its action on goiter,[29] as tested in over a hundred cases, is very noticeable. In the parenchymatous form a few days' treatment suffices to reduce greatly the size of the swelling. Normal dogs in nitrogenous equilibrium, treated with iodothyrin, suffer a marked loss of body-weight, an increased excretion of nitrogen, NaCl and P_2O_5, while diuresis is equally marked (Roos). Further, comparative experiments by Fritz Voit,[30] most carefully conducted on dogs in nitrogenous equilibrium, with fresh thyroid and iodothyrin show that the latter has practically the same action as the former in increasing the decomposition of fat and in stimulating the metabolism of proteid matter. In myxedema the physiological action of iodothyrin is equally pronounced. Thus, in one case, [31] a 16-year-old patient received for 6 days 2 grammes of iodothyrin (= 0.6 milligrammes iodine) daily. In the fore-period of 3 days she received 18.02 grammes of nitrogen and excreted 17.88 grammes. In the iodothyrin period she ingested 16.2 grammes of nitrogen and excreted 20.0 grammes, while in three days' after-period she consumed 15.65 grammes of nitrogen and ingested 21.59 grammes.

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[26] Tambach. Pharmaceutische Centralhalle, March, 1896.

[27] Roos: Zur Frage nach der Anzahl der Wirksamen Substanzen in der Schilddrüse. Münchener med. Wochenschr., 1896, p. 1157.

[28] Ueber die Wirkung des Thyrojodins. Zeitschr. f. Physiol. Chem. Band 22. p. 18.

[29] See Ewald und Bruns: Verhandlungen des Congresses für innere Medicin, 1896, p. 101.

[30] Stoffwechseluntersuchungen am Hund mit frischer Schilddrüse und Jodothyrin. Zeitschr. f. Biol. Band 35, p. 116.

[31] Treupel: Stoffwechseluntersuchung bei einem mit Jodothyrin (Thyrodin) behandelten Falle von Myxœdem und Mittheilung einiger Thierversuche mit Jodothyrin (Thyrajodin). Münchener med. Wochenschr., XLIII. 38, p. 885. See also Notkin, Virchows Archiv. Band 144. Supplementheft.

In 10 days the body-weight fell 4 pounds. In the treatment of obesity iodothyrin has likewise been effective.[32] It has also been clearly established by experiments on dogs that iodothyrin will cut short the various symptoms produced by thyroidectomy, noticeably the convulsions.[33] As Baumann and Goldman[34] have shown, dogs with thyroids removed do not manifest symptoms of tetanic convulsions so long as iodothyrin is given regularly each day in doses ranging from 2 to 6 grammes. Further, in such cases the withdrawal of the iodothyrin, or a marked reduction in the amount administered, is generally followed by an appearance of the convulsions. The dosage required to remove or overcome the tetanus of a dog suffering from thyroidectomy is greater the more vigorous the symptoms and the longer the administration has been delayed after the appearance of symptoms. The negative results obained by Gottlieb[35] have been recently shown to be due to the employment of a poor preparation.

Does the physiological action of the thyroid gland reside wholly in this so-called iodothyrin or its antecedent? In attempting to answer this question we must give a moment's attention to Fränkel's so-called thyreoantitoxin.[36] This, as you may remember, is a crystalline body of neutral reaction obtained from the proteid-free extracts of the thyroid gland. It is soluble in water and alcohol, but precipitable by ether and acetone, and from its composition it has been suggested that it is a guanidin derivative. Fränkel ascribed to this substance the physiological activity of the thyroid gland, since he obtained a suspension of convulsions with thyroidectomized cats on injecting this body. Further, Drechsel[37] has made a preliminary communication to the effect that the proteid-free extract of the thyroid from pigs contains two crystalline substances in small amount, which when fed to thyroidectomized animals appear somewhat active, although not strongly so. Drechsel therefore suggests that possibly there may be three active substances present in the thyroid, viz., two bases, one identical with Fränkel's antitoxin, and Baumann's iodothyrin. He would thus ascribe to the thyroid several associated functions and corresponding to each a distinct chemical substance. Theoretically, of course, this is quite plausible, but Drechsel's compounds have not been further heard from and there are many recent observers who fail to find any physiological action whatever with the proteid-free extract from the gland.[38] Moreover, careful comparative study of the action of thyreoantitoxin and iodothyrin in a myxedema patient showed that while the former was entirely without beneficial action the latter produced all the results characteristic of thyroid feeding.[39] Further, Roos,[40] by experiment on a normal dog in nitrogenous equilibrium, found that thyreoantitoxin was wholly without influence on metabolism, while iodothyrin given to the same animal under like conditions caused at once a marked increase in the output of nitrogen, NaCl and P_2O_5. In other words, thyreoantitoxin shows with certainty none of the properties of the thyroid gland, while iodothyrin is apparently the physiological equivalent of the gland. Indeed, in its action on goiter iodothyrin is more effective than the gland itself, since when the gland is taken it must first undergo digestion to liberate the iodothyrin and some may be lost by putrefactive changes in the intestine.

What now is the significance of the iodine contained in the so-called iodothyrin? Iodine is not a common constituent of the animal body, and its discovery by Baumann in the thyroid gland toward the end of 1895 was the first intimation of its presence in the human organism. So far as known, it is not normally present to any extent in other tissues.[41] Traces, however, are found in the thymus of the calf (Baumann).[42] Barrell has likewise reported the presence of traces in the spleen, adrenals and the ovaries of pigs and cows. The amount, however, is very small as compared with that found in the thyroid. Calling the amount of iodine in 1 gramme of fresh thyroid as 1, the spleen contains 1-20, the adrenals 1-130, and the ovaries 1-62 to 1-65 per gramme of fresh tissue. Iodine has likewise been detected in the human hypophysis.[43].

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[32] See Grawitz: Beitrag zur Wirkung des Thyrojodin auf den Stoffwechsel bei Fettsucht. Münchener med. Wochenschr., 1886, No. 14. Also Henning Ibid. 1896, No. 19.

[33] Hoffmeister: Deutsch. med. Wochenschr. 1896, No. 22. Hildebrandt: Berliner Klin. Wochenschr. 1896, No. 37.

[34] Ist das Jodothyrin (Thyrojodin) der lebenswichtige Bestandtheil der Schilddrüse? Münchener med. Wochenschr. 1896, p. 1153.

[35] Deutsch. med. Wochenschr. 1896, No. 15.

[36] Wiener klin. Wochenschr. 1895, No. 48.

[37] Die Wirksame Substanz der Schilddrüse, Vorläufig Notiz. Centralbl. f. Physiol. Band 9, p. 705.

[38] See Hutchinson: The Chemistry of the Thyroid Gland and the nature of its active constituent. Journal of Physiol. Vol. 20. p. 491.

[39] Magnus Levy: Deutsche med. Wochenschr. 1896. No. 31.

[40] Münchener med. Wochenschr. 1896. No. 47.

[41] Drechsel has reported finding a distinct trace of iodine in the hair of a syphilitic patient treated for a long time with potassium iodide. Centralbl. f. Physiol. Band 9, p. 704.

In human thyroids, on the other hand, as well as in the thyroids of sheep, oxen, and pigs, iodine is most generally present in quite appreciable amount, and pure iodothyrin may contain as much as 10 per cent. of the element. In iodothyrin the iodine is in close combination with the rest of the molecule and is not easily split off even by the action of alkalies. It is noticeable that the thyroids of sheep (and of other animals) vary greatly in their content of iodine. Thus in sheep coming from Freiburg 1 gramme of dry thyroid gland contained on an average 0.9 to 1.3 milligrammes of iodine, while the thyroids from Paris sheep contained 1.15 to 1.2 milligrammes of iodine per gramme of dry gland, and those from Elberfeld 1.5 to 5 milligrammes per gramme of dry tissue. As judged by the rate and intensity of physiological action 0.25 to 0.3 milligrammes of iodine in the form of iodothyrin is equal to 1 gramme of fresh thyroid gland. Further, according to Baumann, doses of 1 milligramme of iodothyrin which contain only 1-10 milligramme of iodine will produce a decided effect upon goiter after three to four applications, thus clearly indicating that it is not the iodine *per se* that is effective, but rather the iodine compound.

The content of iodine in human thyroids is likewise variable, the determining factor being apparently the locality in which the individual lived. Thus, in 26 adults dying from various causes in Freiburg the average amount of iodine in the thyroid was 0.33 milligramme per gramme of dry tissue, while in Hamburg the average from 30 adults was 0.83 milligramme per gramme of dry tissue. In Berlin, average of 11 adults, 1 gramme of dry thyroid contained 0.9 milligramme of iodine. It should be noted, however, that in the Freiburg cases the average weight of the gland was 8.2 grammes with a total content of 2.5 milligrammes of iodine. In Berlin, on the other hand, the average weight of the dry gland was 7.4 grammes with a total content of 6.6 milligrammes of iodine per gland, and in Hamburg the dried gland weighed only 4.6 grammes, with 3.83 milligrammes of iodine.

Recently Weiss[44] has reported the results from fifty analyses of thyroid of adults and children in Silesia, the average weight of the dried gland being 7.2 grammes, and with an average content of 4.04 milligrammes of iodine.

From a large number of observations among children and adults in different localities in Germany, Baumann concludes that in Freiburg, where goiter is endemic, the weight of the thyroid is the largest and its content of iodine the lowest, while in Hamburg and Berlin, where goiter is not endemic, the reverse holds good. As a rule, in cases of goiter only minimal and almost always relatively small amounts of iodine are to be found, from which Baumann draws the conclusion that between the iodine-content of the thyroid and the occurrence of goiter there is a certain definite relationship.

I understand, however, that additional results, not yet published, tend to show that in some cases of goiter the content of the iodine is far beyond the normal, thus implying the existence of two abnormal conditions: one in which the iodine-content is below, and another in which it is far above the normal. In old age the content of iodine frequently falls to a minimum, apparently in harmony with the degeneration of the gland. The largest amount of iodine is found between the ages of 25 and 55.[45] Many circumstances, however, combine to modify the content of iodine in the thyroids, especially the proximity to the sea-shore with the greater abundance of sea-food, etc., and this fact, coupled with the well-known circumstance that in the thyroids of some children iodine is wholly wanting (Baumann), and this without any apparent effect upon the activity of the gland, renders one somewhat skeptical as to the real virtue of the iodine. Blum,[46] however, states that artificial compounds of iodine, with various forms of proteid matter, exert a beneficial influence upon a parenchymatous goiter as well as upon the tetanus and myxedema induced in dogs by thyroidectomy. The iodine in iodothyrin is certainly not active as iodine; the amount is too small, and it may, perhaps, be questioned if the amount of iodine in the thyroid gland can be taken as a measure of the amount of active substance present. In this connection it may be mentioned that animals with the thyroids removed have no power of retaining the iodothyrin administered by mouth or subcutaneously, the iodine compound appearing in the urine either unaltered or in some modified form (organic).[47]

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[42] Vorkommen von Jod in den Ovarien. Chemisches Centralblatt, 1897. Band 1, p. 908.

[43] Schnitzler und K. Ewald; Ueber das Vorkommen des Thyrojodins im menschlichen Körper. Wiener klin. Wochenschr. 1896, p. 657.

[44] Ueber den Jodgehalt von Schilddrüsen in Schlesien Chemisches Central-Blatt. 1897. Band 1. p. 298.

[45] See Baumann: Ueber das Thyrojodin Münchener med. Wochenschr. 1896, No. 14.

To summarize, the thyroid gland manufactures *one* specific substance of marked physiological power—the so-called colloid of Hutchinson—a body which, though containing phosphorus, is not a nucleo-proteid; neither is it allied to mucin. It is peculiar in that it contains iodine. The body when acted upon by gastric juice or by boiling acids is split into a proteid and a non-proteid part, the latter containing all of the phosphorus and the larger proportion of the iodine of the original colloid. According to Hutchinson, both parts of the colloid are physiologically active, but the non-proteid part, the iodothyrin of Baumann, is unquestionably far more active than the proteid part of the original molecule. This substance is apparently the physiological equivalent of the thyroid gland. Lastly, our history would be incomplete without some reference to the theories of Notkin.[48] This reference, however, may be a brief one, since the theories though ingenious are now known to rest upon a false foundation and have no present value.

Concerning the other internal secretions of the body I have little to say, partly owing to lack of time and partly because there is very little definite chemico-physiological knowledge at our disposal. Our knowledge has not as yet advanced sufficiently to admit of making dogmatic statements regarding the exact chemical nature of the active principles present in the adrenals, testicles, ovaries, pancreas, pituitary body, etc., or of the exact action of extracts of these glands upon the metabolic phenomena of the body. Allow me to say, however, in reference to the adrenals that there is some evidence of the existence of two distinct physiologically active substances, one insoluble in 90 per cent. alcohol, possibly the sphygmogenin of Fränkel, which increases blood-pressure, while the other, which is readily soluble in alcohol, causes paralysis of the heart and muscles and death by suffocation.[49] In this connection it will be remembered that Oliver and Schäfer[50] have shown that the active principle (or principles) is non-volatile and that its activity is not destroyed by mineral acids or gastric digestion, while alkalies gradually diminish it. According to Marino-Zuco,[51] the toxic action is due to the presence of neurine glycerophosphate. There are also some grounds for believing a pyro-catechin-like body to be present,[52] which may exert some physiological action. Lastly, in extracts of the testis a peculiar nitrogenous body has been detected, free from oxygen, known as spermin and which is claimed by Poehl[53] to have a marked influence upon metabolism and to act as a true physiological stimulus. Further discussion of these points at the present time, however,. would have little value.

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[46] Ueber Halogeneiweissderivate und ihr physiologisches Verhalten. Münchener med. Wochenschr., 49 1099.

[47] Baumann und Goldmann, Loc. cit. See also A. und M. Frenkel. Jod im Harn nach Einnahme von Thyreodintabletten. Berliner klin. Wochenschr., XXXIII, 37, p. 827.

[48] Zur Schilddrüsen-Physiologie. Virchow's Archiv. Band 144. Supplementheft, p. 224 This paper contains a very full Bibliography Notkin's theories are well combatted by Hutchinson. Journal of Physiol. Vol. 20, p. 490.

[49] See S. Fränkel: Beiträge zur Physiologie und Physiologischen Chemie der Nebenniere. Centralbl. f. Physiol. Band 10, p. 486. Du Bois: Note préliminaire sur l'action des extraits des capsules surrénales. Soc. de Biol. 1896, p. 14.

[50] The physiological effects of extracts of the suprarenal capsules. Journal of Physiol. Vol. 18, p. 370. See also B. Moore: On the Chemical Nature of the physiologically active substance occurring in the suprarenal gland. Ibid. Vol. 17. Proc Physiol. Soc. March, 1895.

[51] Archiv. d. Biol. Ital., Tome 10, p. 325.

[52] Brunner: Chem. Centralblatt. 1892, I., p. 758 Mühlmann: Deutsche med. Wochenschr. 1896, No. 26.

[53] Compt. rendu. Tome 115 p. 129. Zeitschr. f. Klin. Med. Band 26, p. 133 Centralbl. f. d. Med. Wissensch. 1892, p. 950. See also Bubis: Sperminum Poehl in chemischer, physiologischer und therapeutischer Beziehung. Ibid. 1894, p 703.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

JOSEPH P. WINSTON, M.D., GEORGE E. WEST, M.D.,
W. J. ROBINSON, M.D., L. SCHÖNEY, M.D.

Ulcerative Endocarditis of Gonorrheal Origin

At a meeting of the Society for Internal Medicine, in Berlin, Dr. Siegheim reported the following interesting case: A woman came to him complaining of great weakness and chills. On examination he found a mitral systolic murmur. The husband confessed to having contracted a gonorrhea and cohabited with his wife before being completely cured. Dr. Seigheim made the diagnosis: Endocarditis ulcerosa gonorrhœica. Subsequent events proved the correctness of the diagnosis. The condition of the woman became worse and worse, the pulse became intermittent, murmurs developed over the aorta, blood and pus appeared in the urine, then collapse and death. Autopsy, a microscopical examination of the diseased tissue reveals the presence of gonococci. M.

The Physiological Significance of Direct Cell-Division

At the present time histologists are by no means agreed as to the physiological bearings of direct cellular division, or amitosis. Some maintain that amitosis is a sign of degeneration, the resulting cells being usually without the faculty of further division (Ziegler, Flemming, etc.); others contend that while direct cell-division is often a feature of degeneration, there, nevertheless, exists a regenerative variety, in course of which the resulting cells have the power of continuous multiplication. Drs. Balbiani and Henneguy, *L'Union méd.* (No. 36, 1896), draw upon their researches on the behavior of grafts in tadpoles, conclusions in favor of the latter view. If in a damp atmosphere there be placed in contact either two portions of the tails of tadpoles, or the end of a tail be brought into juxtaposition with the hinder part of an anesthetized tadpole, from which the caudal fin has been removed, it is observed that in a hour or an hour and a half, the divided parts have gained a sufficient connection to prevent their separation when placed in water. This connection is superficial and results entirely from the rapid proliferation of epithelial cells. If the line of union be now examined, either in the living condition or after staining, or in sections, it is found that nowhere are the cells in process of indirect division, but that at a certain distance from the line of suture there are to be seen abundant mitoses in the surface-epithelium. At the point of junction, however, an active cellular multiplication is observed, resulting not only in the disappearance of the gap between the two portions, but also in the development of very numerous epithelial ends, formed by a series of rapid and successive amitosis.

Later, when the process of union is advanced, and the circulation is re-established, it is possible to discover cells in indirect division at the healing point. The rapidity of union, by the agency of epithelial elements, leads to the hypothesis of an amitotic cell-division. The work of Flemming, Peremeschko, and Retzius shows that the duration of a single mitosis, in amphibians, is at least three hours. The authors, however, observed a profuse cell-division in the course of one hour. Amitosis, then, in this instance, cannot be regarded as a degenerative phenomenon, since it leads to regeneration and to the union of the divided segments. The authors consider that a cell, the normal method of division of which is by mitosis, may, under given conditions, take on the direct method of division, when its rapid multiplication is an essential, and return subsequently to the indirect manner of division. Consequently, they maintain that, side by side with the amitosis of worn-out cells, which is characterized by the breaking up of the nucleus, there exists an active, physiological, proliferative amitosis of shorter duration than mitosis, and which steps in to supplement the working of the latter process in any circumstances in which the complex changes of karyokinesis lack the time required for their development. O.

The Serum Diagnosis of Typhoid Fever

In an exhaustive article upon this subject, Dr. E. Ziemke (*Deut. med. Woch.*, 1897, No. 15, p. 234) asks: Is the Widal serum-reaction a specific one? He states that the reaction of a serum upon a bacillus can be called specific only when this serum acts upon that bacillus alone, producing a definite and peculiar effect at all times and one which no other serum is capable of producing. Courmont's, Widal's, and the author's experiments have shown that the typhoid serum, used in doses equal to those employed with the typhoid bacilli, also paralyzes the coli bacilli, and, according to Courmont, other bacilli also, e. g., diphtheria bacilli, etc. According to Stern's and the author's observations the sera of non-typhoid subjects, e. g., rheumatism, hysteria, polyarthritis, tuberculosis, meningitis, and malarial serum, in many instances give a reaction which is with difficulty distinguished from that manifested by typhoid serum. Hence, a strict specificity can scarcely be admitted for Widal's serum-reaction.

The author therefore concludes that the serum-reaction in regard to its reliability offers no diagnostic advantages over other finer aids, such as hypoleucocytosis and the diazo-reaction. Since, however, no positive case of typhoid has been observed in which the results of serum diagnosis were negative, and the control cases of non-typhoid but seldom appear to give an exactly similar reaction, Widal's method may be appropriately employed along with other methods, such as the diazo-reaction and hypoleucocytosis, to support the diagnosis of abdominal typhus.

Phthisis Treated with Iodole

This remedy, which has been long known and advantageously used in laryngeal tuberculosis, has of late been employed in tubercular pulmonary affections and extended catarrh of the bronchioles, with success, in the form of insufflations, not the slightest irritation or disturbance of the appetite being observed by patients, who otherwise experienced decided relief even after the first dose (*Pharm. Post*, XXX, p. 210). Iodole is given internally in doses of from 1 to 3 gme. daily, in conjunction with direct insufflations into the larynx, or with the spraying of iodole suspended in a hydro-alcoholic glycerin mixture. The latter is prepared by dissolving 1 part of iodole in from 4 to 5 parts of absolute alcohol and 10 parts of glycerin, and adding 10 parts of water; the mixture must be shaken before use. The excellent effects obtained from the iodole are due to the formation of a protective surface on the diseased part—it being at once insoluble and disinfectant, and preventing contact with sputum. F.

Pulmonary Tuberculosis and Ichthyol

Dr. Heinrich Fraenkel, of Lemberg, states (*Therap. Woch.*, IV, p. 357) that he has used ichthyol in thirty cases of tuberculosis of various stages. No other remedy was employed nor was any change made in the usual diet or in the regular occupation of the patients. He found that the cough was lessened in most patients, even in those in whom the destructive process was quite extended. In cases where only the apices were affected, the cough ceased entirely in a short time, but where the disease had extensively progressed, the coughing was checked only after many weeks' treatment; and where the destructive process was very extensive, although there was a lessening of the cough, the same could not be checked entirely.

The effect on the expectoration was marked and rapid, both the consistency and the amount being reduced; the dyspnea at the same time disappearing. The night-sweats were suspended in the majority of cases under the influence of the ichthyol, and in the remainder a decrease in the secretion was observed.

The effect on the general condition was very striking. There was an increase of weight, energy, and appetite. Despite the disagreeable odor and taste of ichthyol, patients eagerly demanded the medicine.

The ichthyol was at first given in doses of 2 gme (130 grn.) per day, taken in four portions; but this quantity was increased in a week's time to 3 or 4 gme. (45 or 60 grn.) daily. As a taste corrigent oil of peppermint was found to be suitable. The remedy may also be given in gelatin capsules, each holding 0.25 gme. (4 grn.), and should be taken before meals with a glassful of water.

F.

Diphtheria Treated with Sozoiodole

Dr. S. Schwartz, of Constantinople, makes the following statements (*Aerztl. Rundsch.*, VII, p. 261) regarding the use of sodium-sozoiodole, in the treatment of diphtheria as well as a prophylactic.

Insufflations are made every four hours, of powders made according to the subjoined formulas.

For children under 2 years of age:

Sozoiodole Sodium, finely pow'd..	3 parts
Sublimed Sulphur................	6 parts
Saccharin..............	1 part

For children 2 to 4 years of age:

Sozoiodole Sodium, finely pow'd..	equal parts
Sublimed Sulphur.	
Saccharin	sufficient

For children over 4 years of age:

Sozoiodole Sodium..	...finely powdered
Saccharin	..sufficient to sweeten.

The insufflations are made with a paper tube, which is burned immediately after use, in order to avoid any further infection. A solution of potassium chlorate, 1 to 1.5: 180, is also given, in tablespoonful doses, to neutralize the fragments of membrane that may have been swallowed; and at intervals, tablespoonful doses of a cinchona decoction, with cognac or malaga, are also given. In order to ward off any post-diphtheritic paralysis, extract of nux vomica should be given from the beginning of the treatment.

The sozoiodole insufflations are reported to possess the following advantages: (1) The strength of the child is preserved, since the insufflation requires but a few seconds. (2) Even though the powder may not directly reach the infected parts, it is carried there by the saliva and in the act of deglutition, and remains there, gradually dissolving and penetrating to the deepest lacuna of the tonsils and disinfecting them. (3) The entire buccal cavity, in which many forms of microbes are found, is also disinfected. (4) The manipulation is so simple a one as to be readily performed by any one.

No relapses were ever observed, nor were any unfavorable effects on the kidneys noticed; on the contrary, with the decline in the general symptoms, the albuminuria diminished. The membrane, once fallen off, never returned.

Sozoiodole insufflations were also ordered to be used several times daily on children who, of necessity, came into contact with other children afflicted with diphtheria, and adults were ordered to gargle several times daily with a 2-per-cent. solution, which was also to be used as a mouth-wash. In consequence of this measure, throat-affections were but very rarely contracted by the members of a family in which one was afflicted. F.

Diphtheria Treated by Antitoxin

In a paper before the Boston Society of Medical Sciences, Dr. McCallon summarizes as follows:

1. Antitoxin is a remedial agent of very great value in the treatment of diphtheria.
2. The healing serum does not cause albuminuria.
3. Its use does not predispose to paralysis.
4. In the laryngeal cases of diphtheria the benefit derived from its use is as great, if not greater, than in the non-laryngeal cases.
5. The statement that has been made that antitoxin statistics, because based on mild attacks of the disease, are unreliable, is incorrect. O.

The Hot-Air Treatment of Gout and Rheumatism

In a paper read before the Philadelphia County Medical Society (April 28, 1897), Dr. A. Graham Reed considers the various causes which give rise to lithemia and the production of uric acid in the body.

Dry hot air of an extremely high temperature is a powerful therapeutic adjunct. For its successful application, the author has had constructed a copper cylinder having many advantages over those seen in the London hospitals. With this American apparatus he is able to apply and easily regulate hot, dry air, ranging as high as 320° and even higher, for from forty to sixty minutes, that being the time allowed for a single treatment. The temperature of the body in some cases remains normal or nearly so, and in others varies up to 100°. The pulse ranges from 80 to 104, the latter the highest he has thus far seen.

The first effect is upon the peripheral circulation and the terminal nerve-filaments in the skin. Under the stimulus of the hot air, the cutaneous blood-vessels first contract and then relax, thus causing profuse diaphoresis. The circulation is enormously increased and the color of the skin becomes a vivid red. Pain and stiffness are greatly diminished and, in time, entirely relieved. The anodyne effect is very great at a temperature of 300° and upwards. Many prefer it at that height as being so comfortable. When fibrous articular adhesions have formed, more speedy relief is found by breaking them up under chloroform and then applying the heat. The writer has not yet seen any injurious effects from this treatment, but he has seen cripples give up their crutches and useless hands become useful. Pain and effusions have disappeared, and even parts not directly treated have been in a measure relieved.

It is greatly a matter of patience and perseverance and intelligent appreciation on the part of the patient, and of his or her proper management, attention to diet and daily habits, by the physician. Miracles must not be expected; nature takes time for her recuperative processes, and the patient must be made to so understand this. B.

The Different Forms of Cardiac Arhythmia and Their Treatment

M. Houchard has an article on this subject in *La Méd. mod.* In its worst form, arhythmia is characterized by beats of unequal force, following each other at unequal intervals, and separated by intermissions either true or false.. In some cases there may be only a numerical arhythmia (arhythmia in relation to the number of beats only, and not to the force); for instance, in convalescents from the grippe, the pulse may be one minute 70 to 80, and in the next minute 110 to 120 beats. In other cases there may be arhythmia only in relation to the force of the beats; in other cases the sphygmographic tracing may show changes from one moment to another, the pulse rapidly assuming mitral or aortic characteristics. As a rule, though, those three kinds of arhythmia (in number, force, and form) are found associated in some patients.

As to the intermissions, we must distinguish between true and false intermissions.

A true intermission is when the heart actually misses or "skips" a contraction; a false one, when the systole is too feeble to be left at the radial pulse. Lastly, we must also distinguish between intermissions of which we are all conscious, and those of which we are unconscious. Among the rhythmical arhythmias we must mention the double cardiac rhythm and the alternating pulse. The double cardiac rhythm is characterized by two cardiac cycles or contractions, following each other rapidly, one strong, the other feeble; the first contraction is perceptible at the radial artery, the second hardly or not at all. The second contraction follows the first very closely, but is separated by a relatively long interval from the next pair of beats. In other words, the two beats of a pair are separated from one another by a very short pause, while each pair is separated from the next one by a long pause. An alternating pulse is characterized by strong pulse-beats alternating with weak ones, without, however, forming pairs, as in the preceding variety.

From a pathological and etiological point of view, we may divide the arhythmias into six classes.

1. Neurotic or psychical (emotions, hysteria, neurasthenia, exophthalmic goiter, hypochondria).

2. Nervous and cerebral (meningitis, cerebral or meningeal hemorrhage, cerebral tumors, compression of the pneumogastric, etc.).

3. Reflex (diseases of the stomach, of the intestines, of the uterus and its adnexa, and of the liver).

4. Toxic (digitalis, coffee, tea, alcohol, chloroform).

5. Critical arhythmias of acute diseases (in convalescence after typhoid fever, during the crisis in pneumonia, etc.).

6. The arhythmias of heart disease (mitral insufficiency, mitral stenosis, cardio-sclerosis, senility, acute myocarditis of the fevers, endocarditis and pericarditis, adherent pericardium and aortic regurgitation and obstruction of arterial origin).

From a therapeutic point of view the different classifications will not avail us much and we will divide them into two classes: those in which the treatment must be aimed at the removal of the cause, and those which must be treated by digitalis and other cardiac tonics.

A. 1. In toxic arhythmia the removal of the cause is generally sufficient for a cure, except where, through long-continued use of the toxic agents (coffee, tea, tobacco, alcohol, etc.), gastric trouble has been produced; the treatment must of course then be directed to the latter, also. We may mention here that in inveterate smokers a sudden cutting off of tobacco may produce an aggravation of all the cardiac symptoms, and it may therefore be necessary to diminish the quantity smoked daily slowly and gradually.

2. In arhythmias of reflex origin—gastro-intestinal, uterine, hepatic—the treatment must of course be directed to the original cause.

3. It is very important to keep in mind that even in organic diseases of the heart, the arhythmia may be of gastric origin, may be due to hyperacidity or subacidity of the gastric juice, and while digitalis would be of no avail, an alkaline or hydrochloric-acid mixture—as the case may require—will relieve the symptom. Where there is a nervous element associated, quinine hydrobromate from 9 to 12 grn. a day, potassium bromide and atropine will be found useful.

4. There are arhythmias which may be aggravated by the immoderate use of digitalis, and the author has cited several cases of rapid or sudden death from the employment of this drug in patients with arteriosclerosis and a double cardiac rhythm.

5. In arhythmia of nervous or cerebral origin, digitalis will prove useless.

B. The form of arhythmia where digitalis will do much good is the one in mitral insufficiency, especially when it is of mechanical origin; where it is due to degenerative changes of the myocardium, digitalis frequently disappoints us; strophanthus is then preferable to any other medicament. M.

Head-Measurements

In the first number of the new review, *Centralblatt f. Anthropologie, Ethnologie und Urgeschichte*, Dr. Rosbedestwenski, of Moscow, gives the results of some 1600 measurements of the head. He finds that both the relative and absolute size of the head depends upon the growth of the body, a fact which is borne out in the measurements of both sexes. The maximum size of the male cranium would seem to be reached at about the age of 20, fully five years before the maximum for women. J.

An Interesting Case of Tuberculosis

The following case is reported by Dr. Hunter McGuire in the *Bi-Monthly Bulletin of the University College of Medicine*. The patient, a woman, was first seen on November 9, 1895. She then had a hacking cough, enlargement of the glands of the neck, and consolidation of the apex of one lung. Constitutional remedies were prescribed, and the patient was advised to move to a more suitable climate for the winter.

Not long afterward she developed a typical case of noma, or cancrum oris. The disease attacked the left cheek, and when the slough separated, an opening was left as large as a silver dollar, exposing the teeth and rendering feeding difficult. There were high fever, typhoid delirium and great prostration.

The woman was cauterized and disinfected, and heroic measures used to feed and stimulate the patient, but the symptoms grew worse, and little hope of recovery was given to the relatives.

Finally, as a last resort, the use of protonuclein was begun, giving the tablets internally and dusting the powder on the wound. An immediate improvement followed, the patient recovering completely after a long and trying convalescence.

One year later there was not the slightest sign of any tuberculous condition present.

B.

Treatment of Arterial Atheroma

The following diet and treatment are advised by Dr. Rumpf (*Wien. med. Presse*, XXXVIII, p. 538) in cases of arterial atheroma, whereby a minimum of lime is supplied in the food, while its elimination is greatly furthered:

The diet per day should consist of meat 250 gme., bread 100 gme., fish 100 gme., potatoes 100 gme., and apples 100 gme. This represents 93 gme. of albumin, 14 gme. of fat, and 93 gme. of carbohydrates, and develops 892 calories. This last may be increased to 1700 by the addition of 100 gme. of butter, or to 2200 by the addition of 100 gme. of cream and 50 gme. of sugar, to the diet. Instead of the apples an equal weight of green beans, cucumbers, or peas may be taken. All substances rich in lime, such as milk, cheese, eggs, etc., are contraindicated, and their use should be avoided. The best drink is carbonated water.

The medical treatment consists in increasing diuresis, and augmenting the elimination of lime through the kidneys by means of the following mixture:

Sodium Carbonate	10 gme.
Lactic Acid, sufficient to saturate.	

Then add:

Lactic Acid	10 gme.
Syrup	10 gme.
Water	to make 200 gme.

For one day's use.

Dr. R. found that lactic acid caused a decided increase in the elimination of lime; and the mixture, made as above, exerts a powerful diuretic action. The medication should be continued for a long time, the mixture being given for a month, then suspended for a month, and then its use resumed again. The treatment is, of course, not suitable for every period of the disease; it is contraindicated in the last stages, when the disturbances of compensation have become definite, so to speak, and also in cases showing severe symptoms of renal atrophy. Light muscular exercise, properly increased and controlled, often exerts a wonderfully beneficial effect. Among other auxiliaries that are at times useful may be mentioned massage, cool half-baths, and carbonic-acid water baths.

F.

Pneumonia Treated with Creosote.

Dr. A. Casati (*Wien. med. Presse*, XXXVIII, p. 546) recommends large doses of creosote in croupous pneumonia, broncho-pneumonia, and fibrous pneumonia in children as well as in adults.

It is believed that the creosote acts as an antiseptic on the pneumococci, as well as a cardiac stimulant. Dr. C. has obtained excellent results with the following mixture:

Creosote (Beechwood)	25 gme.
Tincture Gentian	50 gme.

Dose: 25 to 150 drops daily, in wine.

The initial dose for adults is 50 drops, and this is increased by 50 drops daily until 150 drops are taken daily, at which point it is kept for three or four days, or until the stage of resolution, and then only 50 drops are taken daily for five or six days. For children, the beginning dose is 25 drops, which is increased up to 75.

F.

Cure of a Severe Case of Acute Pneumonia by Intra-Venous Injections of Artificial Serum

Bassi, in the *Gaz. degli Ospedali*, 1896, 68, treated a case of severe pneumonitis by means of a solution of salt and sodium carbonate, the exact proportions are not given in the text; this was injected 50-200 c.c. into the veins of the arm just before the crisis, and was attended with good results.

J.

Chronic Gastritis.

Prof. H. T. Webster, of San Francisco, abs. in the *New England Medical Monthly*, discusses chronic gastritis and its treatment. After a careful résumé of the etiology and pathology of the affection, and an enumeration of the symptoms attending it, he says, in speaking of the diagnosis:

"The use of the stomach-tube will afford the best means of diagnosis. If siphonage be practiced an hour or so after eating, hydrochloric acid will usually be absent, and lactic acid associated with fatty acids be present, with a large quantity of mucus. If siphonage be practiced seven hours after eating, undigested food will be found still remaining in the stomach, while in cases of functional dyspepsia it will have disappeared. Malignant disease will be excluded by lack of cachexia, absence of perceptible tumor upon palpation, and by the character of the material vomited, coffee-ground material soon appearing in cancer. In gastric ulcer, a diagnostic feature is frequent hematemesis."

He believes that if a proper diet be pursued and rational medicinal treatment be employed, almost every case of chronic gastritis will improve readily, unless it be complicated by gastric carcinoma, gastric ulcer, or hepatic, renal, or pulmonary disease. His treatment consists in lavage, disinfection and cleaning of the viscus with hydrozone. Lavage should be practiced every morning before eating, a small quantity of water (a pint) being used at first, which should be increased to two or three quarts as the treatment is carried on. The water should be warm (98.6° F.) and solutions containing Glauber's salt, asepsin or boracic acid are often useful. Regarding the use of hydrozone in this affection, he says:

"The introduction of hydrozone as a remedy in this condition was an innovation of remarkable value. A drachm of Marchand's hydrozone, added to four ounces of boiled water, and drunk while the stomach is empty, exerts a powerful influence in dissolving and removing the tenacious mucus, destroying microbic elements of fermentation and stimulating normal action in the diseased mucous surface. The best results follow its use in the morning before breakfast, the patient taking it while in bed, and remaining on the left side for ten minutes before rising. It may be taken oftener, but once a day may suffice, and it is advantageously used in this manner after the practice of lavage.

The hydrozone may at first produce acrid sensations in the stomach, but as the irritated gastric surface improves in tone under its influence, this will pass away and sensitiveness to its action will subside. Where necessary the amount of hydrozone may be reduced until the stomach becomes more tolerant to it.

The important step in chronic gastric catarrh, as in catarrh of all other mucous cavities, is the cleansing of the part from the ropy mucus, which clogs the glandular organs, and serves as a nidus for the operation of agents of fermentation. Glycozone in teaspoonful doses, diluted with water, administered after meals, prevents fermentation of food and accelerates a cure.

If the treatment outlined above be properly carried out, the writer believes that little more is necessary, for with the removal of morbid accumulations the gastric secretions will become normal in quantity and quality. Hydrochloric acid, administered internally, may in some cases do good, as also the bitter tonics, but their place is secondary to the use of the stomach-tube and the disinfection of the mucous membrane of the stomach with hydrozone.

Collection of the Urine of Young Infants

According to the *Brit. Med. Jour.*, Marfau (*Jour. de Clin. et de Thérap. infant.*, April 22, 1897) comments upon the difficulty of collecting the urine of infants at the breast for examination. It is passed involuntarily, and mixes with the fecal matters; and it is not always convenient to collect it by means of the catheter, which is the only accurate method. He has, therefore, devised an apparatus to meet this difficulty. For the male infant he uses a pear-shaped india-rubber bag with an orifice in its posterior aspect into which the penis and scrotum are introduced; this is fixed in position by an abdominal belt; at its lower end is a metallic tap through which the collected urine can be drawn off. For girl babies a sort of funnel flattened laterally is fixed round the vulva, leaving the anus outside; it also has a tap which is straight when closed, and is thus not interfered with by the pressure of the thighs of the infant. The apparatus can easily be disinfected, and it enables the total quantity of urine to be gauged. B.

Pernicious Malarial Fever in a New-Born Child

Victor Cadwell, M. D. (*Railway Surgeon*, April 20, 1897), records a case of pernicious malarial poisoning in a new-born infant.

On February 24 he was called to see a multipara, 23 years of age, who had been suffering for several days with the tertian type of malarial fever. Her temperature was 103.5, and she was just beginning to perspire. There was a history of several similar attacks in the past two years. The patient was pregnant and thought herself six weeks beyond term, but from the meagre data he could obtain he judged her about at term. Examination showed a cervix softened and slightly dilated.

Next morning he delivered her of a boy. Both mother and child did well, the child apparently in perfect normal condition. On the morning of the following day, mother had a chill. At the same time the child became comatose and cyanotic, cold, its face blue and pinched and finger-nails blue, with rectal temperature 105.5°, and had rapid respiration, thus presenting a picture of acute pernicious malarial congestion, which ended in death. V.

PEDIATRICS

EDWARD N LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DE FOREST, M.D., H. T. HOTCHKISS, M.D.

Edema Without Albuminuria in Children

Dr. Filaton, in *Medicinskoje Obosr.* (No. 1, 1897), maintains that this form of albuminuria is caused either by cardiac debility or alterations in the walls of the blood-vessels. The edema due to cardiac debility manifests itself at first in a slight compressibility, slowness and irregularity of pulse, followed later by symptoms of congestion of liver and kidney. The edema due to alterations in the blood-vessels usually arises from scarlatinal poison, and makes up most cases of post-scarlatinal edema without albuminuria, but it may result from intestinal autoinfection. This form of edema is characterized by its rapid recovery under a nutritious diet; caffein, ½ to 1 grn. four to six times a day, and moderate quantities of wine. O.

Dyspepsia of the New-Born

The *Phila. Poly.*, Vol. VI, quoting Albert Robin (*Bull. gén. de Thérap.*, July 15, 1896), states the following:

Overfeeding is the most frequent cause of all gastric troubles. The stomach of an infant is very small and should be given only sufficient for its immediate digestion. The child should be nursed at two-hour intervals, and in small amounts. Too early weaning and the substitution of solid for liquid food often causes indigestion. The pancreas does not secrete its special ferment until the fourth month; the salivary glands begin to furnish diastase about the ninth month, and their full power is attained only at the eleventh month. Starchy substances, therefore, cannot be digested at all before the fourth month, and nitrogenous matter before the tenth month. Vomiting is the characteristic symptom of infantile dyspepsia, but should be carefully distinguished from a mere regurgitation, which latter occurs immeditely after nursing, the former about an hour later consists of acid-smelling clots. C.

Diphtheria in an Infant Nine Days Old

Dr. Sanos reports a rather exceptional case in the *N. Y. Med. Jour.* (Vol. LXV, No. 26). The mother of the babe had been suffering with laryngeal and pharyngeal diphtheria for four or five days before labor; she died a few hours after delivery. The husband contracted the disease and was treated in the "old way." He recovered, but was left with a slight paralysis of the muscles of delutition and with profound persistent anemia. While treating the husband the babe and the grandmother were also found to suffer with diphtheria. In the child the exudate filled the nose and throat. Under whisky and iron treatment the symptoms became more severe. The doctor then decided to use antitoxin, and after the first injection the child improved remarkably, the membrane being almost entirely detached; after the second injection the child was apparently well. The grandmother was also treated with antitoxin (only one injection), and made a rapid recovery. M.

Sarcoma of the Liver in a Child One and a Half Years Old

The case in question, observed by Dr. T. Krasuobajef (*Djetskaia Medicina*, No. 1, 1897), presented the following symptoms: Swelling in the right hypochondriac region and a globular prominence beneath the semilunar cartilage, with a sensation of deep fluctuation. The inferior border of the liver was situated along the mammillary line in the umbilical region and along the middle line between the umbilicus and the typhoid process. Assuming that a case of subphrenic abscess was dealt with, an incision into the most fluctuating portion was made. Upon opening the abdominal wall the peritoneum was found lusterless and dirty, covered with old hemorrhagic coagula. There was a slight erosion in the parenchyma of the liver from which exuded a considerable quantity of blood. The passage of a probe into the fluctuating portion revealed a gray purulent fluid. The child died four hours after the operation, when a post-mortem examination was made. The liver was found enlarged, presenting several small and large nodules which proved to be large round-celled sarcomata. O.

Six Calculi in Steno's Duct in a Child of Thirteen Years

Dr. Deuer, in *Jour. de Cliniq. et de Thérap. inf.* (No. 16, p. 317, 1897) reviews this case from *La Pres. méd. Belg.:*

The child complained of slight difficulty in mastication, pains in the right jaw and intermittent swelling, principally in cold and damp weather. Symptoms began three years ago. There was no dryness of the mouth. Hard bodies were felt in the duct. The probe took the course of a dipping curve through the duct but failed to reach the stones. Incision was made along the anterior margin of the masseter, and the six concretions were removed from a pouch in the duct, weighing 1-15 grn. to 2 grn. each.

De Closmadeuc (in 1855), out of 132 salivary calculi, found only 11 in Steno's duct. H.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

A Case of Cerebral Diplegia, with Idiocy

Isaac A. Abt, in the *Chic. Med. Rec.* for March, 1897, reports the case of a child, then 18 years of age, with the development of a child of ten and an idiot of the highest degree. The only family taint was a neurotic father. The child was helpless from birth, though she had a limited degree of movement in both upper and lower extremities up to the fourteenth year. The case was of interest, not on account of the rarity of the type of disease, but because it was an infantile cerebral palsy of high degree with marked idiocy, and the child had reached the unusual age of 18. J.

Increase of Insanity and Consumption Among the Negro Population of the South Since the War

Thomas J. Mays, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic, and Visiting Physician to the Rush Hospital for Consumptives in Philadelphia, read a paper upon this subject before the section of Neurology and Medical Jurisprudence of the American Medical Association, June 3, 1897, an abstract of which he contributes to the AMERICAN MEDICO-SURGICAL BULLETIN.

Statistics gathered from the superintendents of Southern Hospitals for the Insane, show that both insanity and pulmonary consumption have become more prevalent among the negroes of that section of our country since the close of the civil war.

From this and other evidence which is presented, it is concluded that both of these diseases have disproportionately increased since the war, and that in all probability the causes which led to one also led to the other disease. The writer holds that the cause of phthisis resides in a disintegrated nervous system, and cites a number of concurrent authorities, as well as clinical and pathological data, to prove his position, and, among other conclusions, he draws the following: that both consumption and insanity are closely allied, both in personal and family history, to idiocy, hysteria, epilepsy, asthma, and to other diseases of the brain and spinal cord; that they are both produced by syphilis, alcohol, overwork, business vicissitudes, domestic trouble, mental anxiety, grief, disappointment, and excesses of all sorts—in fact, by any agent or influence which vitiates the brain or nervous system; and that those who are confronted by a new and higher civilization, and who are compelled to adjust themselves to these new relations, are excessively liable to fall victims to insanity and pulmonary phthisis.

The condition of the negro is viewed from these premises. Civilization is regarded as an accumulation of force, and the older the civilization the greater its momentum and the higher its plane; and when a lower civilization is precipitated in the midst of a higher, as in the case of a negro, it is the throwing together of two forces which differ in power and in rate of motion. The lower, in order to preserve itself, must make an effort to adjust itself to the course and changes of the higher movement, and the strain which is occasioned by this effort of adaptation falls on and vitiates the brain and nervous system, and this in turn gives rise to insanity and phthisis. The vices of alcoholism and syphilis, which are readily acquired by these people, accelerate the advent of these diseases by destroying the integrity of the brain and the nervous system.

Viewing the condition of the Southern negro from these standpoints, it is perfectly obvious why insanity should necessarily develop, and on no other grounds can we explain why consumption should follow in the wake of insanity. Those who were able to realize all the factors which would be called into activity by the environmental change of the negro after the war could, at the time it was made, have foretold the inevitable results which are now but too plain to every one. It is in part a repetition of what happened, and now happens, to the aborigines of North America, Australia, and New Zealand, who in their unequal warfare with modern civilization have been and are being fast decimated and exterminated by pulmonary phthisis.

The Relation of Hysteria to Insanity

In a short paper the author, I. H. Neffa, in the *Physician and Surgeon*, for March, 1897, comes to the following general summary:

1. Hysteria is the result of degeneracy, presenting mentally and physically one or more of the stigmata of degeneration.
2. It conforms to a type of psychosis. Any form of insanity may be engrafted on hysteria, producing the so-called hysterical insanity.
3. The primary delirium of hysteria may be independent of any sensory or motor complication. More often the emotional storm follows some distinct hysterical attack.
4. Hysteria may complicate insanity, showing analogy to its occurrence in other diseases. J.

SURGERY

William B. Coley, M.D., Jarvis S. Wight, Jr., M.D.,
David M. Stabler, M.D.

The Surgical Treatment Advocated by Kocher in Spasmodic Torticollis.

Dr. Quervain had opportunity to study twelve cases of spasmodic torticollis operated upon by Kocher. The cases are described and methods of treatment are discussed in *La Sem. méd.*, No. 5, 1896; also in brief in the *Centralbl. f. Chir.*, No. 48, 1896. Numerous theories have been put forward to explain this comparatively rare affection. Any theory which presupposes a peripheral cause is unsatisfactory. It is much more likely to be of central origin, and probably lies in the cortex. This is shown by the fact that all the muscles which rotate the head are involved, and not the sterno-cleido-mastoid alone. It is going too far to set down the trouble, as Brissaud did, as a symptom of mental disturbance, although it is true that most cases of spasmodic wryneck occur in nervous individuals, and that this trouble is often associated with epilepsy, hysteria, or even insanity.

Kocher's twelve cases were of the clonic or tono-clonic forms. None of them were purely tonic. In three of them the posterior muscles of the neck were alone involved. In no instance was the sterno-cleido-mastoid muscle alone involved, but the muscles of rotation of the opposite side of the neck (splenius, obliquus capitis inferioris, and to a less extent the complexus minoris) were also affected. If the contraction of the flexor muscles caused nodding forwards, all of those of the back of the neck acted to restore the position of the head.

Medication of various kinds—massage, electricity, hydrotherapy, etc.—as well as various kinds of apparatus, had failed utterly with these patients, and they readily submitted themselves to operation. Formerly operations, such as resection, ligature, and stretching, were performed upon the nerves (chiefly upon the spinal accessory). The results were unsatisfactory. Of sixty-one patients operated upon, only twelve were cured. There were twenty-two improvements and twenty-five failures. Kocher therefore determined to divide the affected muscles themselves. This was accomplished in two or three stages. Thus in rotary contractions the sterno-mastoid was divided at the first operation, and the opposing contracting muscles at the second. In some cases all the muscles of the back of the neck were divided. Especial attention was given to regular daily motions of the head in all directions. These were begun as soon as the wounds were healed, and were continued for several months.

The results were better than those attained by resection of the nerves, because all of the affected muscles are divided, and because paralysis and atrophy do not follow the muscular division to the extent that they do division of the nerves.

Of the twelve cases, seven were cured without any unpleasant symptoms other than a feeling of pressure or stretching in the neck at times of excitement and after severe mental effort. Three cases, in which the after-treatment could not be fully carried out, were improved. In the other two cases, only the first operation had been performed at the time of the report.

One of the cures had gone ten years without recurrence, so that the operation cannot be looked upon as merely palliative. The author attempts to explain its action as a "suggestive action upon the cortical center." This is not a suggestion as the word is ordinarily understood. If that were true a skin incision would have answered equally well. But as soon as the offending center in the brain becomes aware that the impulses which it sends out not only do not move the head, but meet actually no resistance, it gradually ceases its useless effort. Hence the necessity for the division of every affected muscle. This theory explains, too, the failure of a plaster-of-Paris bandage to cure the trouble. This may keep the head still; but it does not remove the resistance from the muscles, but rather increases it, and they continue to contract, even though they cannot move the head.

At any rate, it is a fact that a certain time after the myotomy, contractions ceased in the proximal—innervated—portions of the muscles. D.

Diseases of the Appendix.

In a paper read before the St. Louis Medical Society, Dr. A. H. Meisenbach presented the following points:

1. Simple catarrhal appendicitis should receive the proper medical treatment in the beginning of the disease.

2. A case of simple catarrhal appendicitis that is not materially benefited in the first thirty-six or forty-eight hours should be looked upon with suspicion; for perforation, abscess-formation or gangrene may result, and therefore operation be advisable, taking into consideration, however, the condition of the patient and all available data.

3. That every case of appendicitis whose onset is marked by severe symptoms should be operated on as soon as possible, for the severity of the symptoms indicates that it is

likely to be either a case of appendicitis perforativa suppurativa or a case of appendicitis gangrenosa.

4. In cases of recurrent appendicitis the appendix should be removed in the interval between attacks.
5. In the recurrent form it may be necessary to operate during an attack, this being determined by the character of the attack.
6. In the operations for appendicitis, especially the severer forms, a thorough appreciation of the pathology and thorough command of the operative technique is an important factor in the outcome of the case.

B.

The Nature of Gonorrheal Inflammation.

The character of the inflammation set up by the gonococcus was discussed at length in the congress recently held in Frankfort. In the *Centralbl. f. Gynaek.* the results of the discussion are given in an article by Wertheim.

Bumm took the stand that in the vast majority of cases of gonorrhea the affection was one of the mucous membrane; that the gonococcus is purely a parasite of the mucous membrane, and, except under certain conditions, which seldom arise, it does not extend into the other tissues; and that, especially in chronic inflammation, it exists in the superficial epithelium.

Neisser expressed the opinion that a gonorrheal inflammation is essentially an epithelial affection, and it is at least questionable whether gonococci are able to penetrate into healthy connective tissue. Wertheim claimed that numerous investigators have proved the ability of gonococci to exist in the cutaneous tissues, and that in every case of gonorrhea in a mucous membrane a sufficiently careful investigation will demonstrate their presence in the subepithelial tissue. This fact is so important for the correct understanding of gonorrheal inflammation that it ought never to be lost sight of. It explains the frequent obstinate course of gonorrhea and the frequent failure of treatment. In order to overcome the gonococci, means must be employed whose effects extend to the superficial portion of the subepithelial layer of connective tissue. To do this thoroughly would be to destroy in toto the epithelial layer, and hence the failure of remedies in so many cases.

Certain other ideas formerly held in connection with gonorrhea are now known to be false. We know to-day, for example, that a gonorrheal infection of pavement epithelium is by no means an impossibility. This has been demonstrated to be true of the vagina as well as of the bladder. We know, further, that gonococci can multiply in the endothelium of the peritoneum as well as in the subendothelial connective tissues. We know that the changes which are so often found in gonorrhea of the tubes or ovaries—the adhesions, the infiltrations of the pelvic organs and cellular tissue, the collections of pus in the tubes and ovaries, etc.—are purely of a gonorrheal nature. We know, further, that there is a gonorrheal metritis. Finally, we recognize that there are undoubted gonorrheal metastases; that the gonococci can penetrate into the capillary vessels at the seat of the primary lesions and set up an arthritis or an endocarditis, or even a myocarditis.

The knowledge of these facts rests on demonstrations of the gonococci, and must be regarded as scientifically exact. There is no reason to suppose that these distant lesions, except in isolated cases, are due to a mixed infection. This supposition rests on the exploded theory that gonococci can neither penetrate into pavement epithelium nor into the peritoneum nor into the deeper layers of the connective tissue.

However, in spite of all these changes in our views of the nature of the gonococcus, Bumm's statement remains true that gonorrhea in the vast majority of cases is an affection of the mucous membrane. It always was that, and that it will always remain; but it is quite another thing to say that the gonococcus is purely a parasite of mucous membrane, and, even if favorable influences are necessary to permit its spread to other tissues, such influences are encountered not so very seldom.

T.

Myxedema Cured by the Use of Iodothyrin

MM. M. P. Marié and M. Jolly (*La Sem. méd.*, No. 61, p. 489) cite a case of myxedema of several years' duration, in a woman 54 years old, treated with iodothyrin, giving each day from three to four papers containing 30 ctg. each, corresponding to .001 milligramme of iodine in organic combination, or to 30 ctg. of fresh thyroid gland.

Though the patient presented a marked cardiac dypsnea and a little albuminuria, recovery was complete in six weeks.

In a case of goiter with phenomena of dyspnea and tachycardia, MM. Marié and Jolly obtained likewise with iodothyrin a notable amelioration.

Radical Cure of Hernia

Dr. W. B. Coley, of New York, in *Ann. of Surg.*, Vol. XXV, No. 3, p. 270, reports 360 cases of hernia operated upon for radical cure since August, 1891. The mortality was practically nil, as there was but one death in the entire series, and that was due to pneumonia.

The operations were divided as follows:

For inguinal hernia	326 cases
For femoral hernia	25 cases
For umbilical hernia	6 cases
For ventral hernia	3 cases

Bassini's method, with the substitution of kangaroo tendon for silk, was employed in 300 cases, with but two relapses. There were 55 operations for inguinal hernia in the female, with no mortality and no relapses. The 25 cases of femoral hernia were operated upon partly by the method of high ligation of the sac and purse-string suture of the femoral canal with kangaroo tendon, and in part by Bassini's method for femoral hernia. No relapses occurred after either method.

The results in the small series of umbilical and ventral were unfavorable: Of 5 cases that occurred in stout women, 4 relapsed, all within seven months after the operation, and the fifth case was not traced.

Of the 300 cases operated upon by the Bassini method, 280 were traced with but two relapses; 16 were sound more than 4 years, 26 from 3 to 4 years, 65 from 2 to 3 years, 77 from 1 to 2 years; 185 operated upon by Bassini's method were traced beyond one year without relapse; 26 cases of inguinal hernia were operated upon by high ligation of the sac and closure of the canal with kangaroo-tendon, without transplantation of the cord; of these 4 relapsed. All of the relapses with one exception, occurred within 6 months after operation; 250 of the cases operated upon occurred in children under 14 years of age.

The author believes that the Bassini operation is preferable to all methods at present employed. D.

Surgical Treatment of Gall-Stones or Cholelithiasis

In his lectures on "Diseases of the Gall-Bladder and Bile-Ducts," delivered at the Royal College of Surgeons of England (*Brit. Med. Jour.*, March 27, 1897), A. W. Mayo Robson, F. R. C. S., referring to the surgical management of such cases, says that after medical treatment has been fairly and fully tried and has failed, surgical measures should be resorted to. Cholecystotomy is generally recognized as the operation to be aimed at in the treatment of affections of the gall-bladder or bile-ducts, especially in cholelithiasis.

The indications for operating are given as follows:

1. In frequently recurring biliary colic without jaundice, with or without enlargement of the gall-bladder.
2. In enlargement of the gall-bladder without jaundice, even if unaccompanied by great pain.
3. In persistent jaundice ushered in by pain, and where recurring pain, with or without ague-like paroxysms, render it probable that the cause is gall-stones in the common duct.
4. In empyema of the gall-bladder.
5. In peritonitis, starting in the right hypochondrium.
6. In abscess around the gall-bladder or bile-ducts, whether in the liver, or under, or over it.
7. In some cases where, although gall-stones may have passed, adhesions remain and prove a source of pain and illness.
8. In fistula, mucous, muco-purulent, or biliary.
9. In certain cases of chronic jaundice, with distended gall-bladder dependent on some obstruction in the common duct, although the suspicion of malignancy be entertained. In such cases the increased risk must be borne in mind, as malignant disease may be the cause of the obstruction, and operation in such cases is attended with greater danger than ordinary.
10. In phlegmonous cholecystitis and in gangrene, if the case be seen and recognized at a sufficiently early stage of the disease.
11. In gunshot injury, or in stab-wounds over the region of the gall-bladder.
12. In suspected rupture of the gall-bladder without external wound.
13. In some cases of chronic catarrh of the gall-bladder or bile-ducts.
14. In suppurative choleangitis.

Of the operative measures undertaken for diagnosis, sounding and aspiration of the gall-bladder are referred to. The former is both uncertain and dangerous, and may more safely be replaced by a small exploratory incision, which can be extended for treatment if required. Aspiration of a distended gall-bladder, through the unopened abdomen, though apparently a simple procedure, is not unattended with danger, death having followed in more than one instance. Murphy says it is fatal in 25 per cent. It is only in very exceptional cases that it can do any good. Here, again, the author prefers to make a small exploratory incision, then to empty the gall-bladder by the aspirator, and afterward to explore the bile-passages with the fingers. If, however, aspiration without exploration be decided on, a small needle should be used and the cyst emptied as far as possible, in order that intracystic tension may not lead to extravasation through the puncture. B.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N. Hoople, M.D.,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Tobacco Amblyopia in a Woman, with Anomalous Scotomas

Dr. de Schweinitz (*Ophthal. Record*, March, 1897) reports an interesting history of a case of tobacco amblyopia occurring in a woman of 60 years of age, strong and healthy. Cigars in varying daily number had been used for fifteen years; spirits had not been used, and tea and coffee had been employed in moderation. Vision, at time of examination, was reduced 6-12 with + 1 D. correction in O. D., and to 6-20 with + 3 D. correction in O. S. Peripheral fields were intact. At the center of each field there was a color scotoma for red and green, extending from 5 degrees to the temporal side of the fixing point, passing to 20 degrees on the horizontal meridian and to the same distance 15 degrees above and below this point.

These patches were symmetrical. Gradual improvement followed the withdrawal of the tobacco, and the administration of strychnine and iodide of potassium.

Under remarks the writer says that the typical scotoma in toxic amblyopia, is an oval with its pointed end toward the blind spot. Average measurements are: Outward, 18 degrees; inward, 3 degrees; upward, 7 degrees, and downward, 6 degrees.
K.

Pupillary Changes in the Insane

Siemerling (*Berliner klin. Wochen.*, No. 44, 1896, *Univer. Med. Mag.*), discussing pupillary changes in the insane, notes first that inequality of the pupils is at times met in healthy individuals, and that it occurs in general diseases of the most diverse nature. In 3,010 cases of dementia paralytica the pupillary reaction to light was lost or diminished in 68 per cent. The Argyle-Robertson pupil is thus of great diagnostic importance in general paralysis, and is one of the very early manifestations of the disease. It is usually bilateral; a continuous unilateral loss of the light-reflex is very rare. The outline of the pupil is various. The first change is generally a diminution of the reaction to light, then a total loss, followed by paresis and paralysis of reaction to accommodation. The qualitative change first noted by Gowers, whereby the pupils momentarily contract to light, then dilate, and respond no more was observed in a few cases of general paralysis unassociated with locomotor ataxia. The pupil may show considerable daily variability in size. Unrest of the pupil is rare. Nine thousand one hundred and sixty cases of insanity, mostly general paralysis, were studied with regard to the presence of the Argyle-Robertson pupil. It was present in nineteen cases of senile dementia, but has also been found in old people of sound mind and body. It was present in two cases of syphilis of the central nervous system, but is rare in chronic alcoholismus. Its occurrence in hysteria is an open question. The Argyle-Robertson pupil is a most important phenomenon, and, while it does not always indicate locomotor ataxia or progressive paralysis, it is always to be considered as a manifestation of disturbance of the nervous system. General paralysis may develop many years after the Argyle-Robertson pupil. The loss of the light-reflex during an epileptic seizure serves to distinguish it from an hysterical one. During anesthesia, unless the patient be quite aged, the reflex is usually present, but it is absent in general paralytics. The pathology of the phenomenon is at present but imperfectly understood. B.

Eczema of the Ear

B. A. Randall, in a paper read before the Section of Otology and Laryngology of the College of Physicians of Philadelphia (*Ther. Gaz.*, Feb. 15, 1897), said it was generally conceded that the aural manifestations of eczema are probably the most obstinate. The part involved should be made as germ-free as is possible.

The importance of local measures must not blind us to the influence of constitutional elements; hence we should always make most careful inquiry as to the diet and life of the patient, and by medicine as well as regimen seek to lessen any such basis of the trouble. The fellow ear should always be most carefully scrutinized, but the author adds that this is a standing rule in otology. As to the local causes, hardly any of the otorrheal cases escape some involvement of the skin surfaces. Cases of furuncular affections rarely fail to show evidence of previous itching of the meatus, causing the canal to be scratched; and through the resulting abrasion was introduced the infection which inflamed the involved glands.

Antiseptic cleansing should constitute the first measure of treatment; and it had better be a little overdone than slighted. Irritation of the lesion is to be decidedly deprecated. Crusts and films of desquamating epiderm should be removed. The macerations, poulticings and douches, the author believes, should be contraindicated. The use of water is strongly deprecated. Oil is better; but long use of hydrogen dioxide has shown it to meet better the writer's needs, in spite of its watery menstruum, than anything else. It is rarely irritating in itself, unless maintained needlessly long in contact.

The real medication which follows must be adapted to the exact condition presented. In some of the acute, severe, and erysipelatous lesions we do well to treat it with ichthyol, pure, or, generally better, in 25-per-cent. ointment, locally, while exhibiting tincture of iron chloride in full doses internally; if moist, a solution of silver nitrate, from 2 to 10 per cent., and in the most latent, subepidermal form, resorcin in equal strength. It matters little whether these are made up with the various forms of petrolatum, with lanolin or with one of the more elegant non-fatty bases.

Most of the commended local applications can be made efficacious by conscientious and painstaking use, with some care in selection, accompanied by rational internal medication for any underlying dyscrasia. B.

Calculus in the Tonsils

A. Costet, in his *Thèse de Paris*, 1896, is reviewed by Soupault in *Rev. de Thérap. méd.-chirurg.* (No. 1, p. 16, 1897). According to the author calculi of the tonsils may be met at all ages, usually the result of chronic follicular tonsillitis, but are likely to occur from any condition in which the secretions are retained.

The arthritic diathesis seems to be predisposing.

Treatment is prophylactic and curative. The former consists in abridging the catarrhal condition of tonsillar congestion. The latter consists in extracting by forceps, galvanocautery, bistoury or scissors. Prevention of return lies in ablation. H.

Purulent Ophthalmia of the New-Born

Since Neisser (1879) described the gonococcus which bears his name and which may be found in cases of ophthalmia neonatorum, many have thought, in a general way, that that pathogenic micro-organism was the sole cause of this disastrous disease. Recent investigation seems to combat this error, showing in a palpable manner, that a great many other bacilli can produce purulent ophthalmia.

With this object Chartres publishes his observations in the December (1896) number of the *Arch. Clin. de Bordeaux.*

In twenty-six personal observations of infants affected with purulent ophthalmia, the pus of which was investigated microscopically, Chartres found pure gonococci in only nine cases, finding the streptococcus associated in two cases, being absent in the rest, while instead he found micrococci in three patients, staphylococci alone in one. and in another associated with streptococci, and in the rest, streptococci associated with Löffler's bacillus, or an undetermined bacillus, the Löffler bacillus alone or sarcinæ.

Bearing this in mind, we find an explanation why various purulent ophthalmias apparently the same in their clinical aspect, differ so much with reference to their gravity and the results obtained in their treatment.

Chartres concludes as follows:

1. The pathogenic bacteria which we have found in ophthalmia purulenta neonatorum, are very numerous.

2. Wishing to establish a proportionality in the cases observed, we see that:

36 per cent. were due to pure gonococci.
8 per cent. were due to gonococci and streptococci.
12 per cent were due to Löffler's bacillus.
12 per cent. were due to micrococci.
8 per cent. were due to pure streptococci.
4 per cent. were due to streptococci and Löffler's bacilli.
4 per cent. were due to streptococci and various undetermined bacilli.
4 per cent. were due to pure staphylococci.
4 per cent. were due to undetermined bacilli.
4 per cent. were due to Weeks' bacillus.
4 per cent. were due to sarcinæ.

3. The most serious cases have been those in which were found streptococci alone or associated with the gonococcus or certain bacilli, especially Löffler's. These are the cases that terminated with total loss of sight or were accompanied with intercurrent disease, generally broncho-pneumonia, which finally caused the death of the patient.

4. The affection produced by pure gonococci was relatively benign, there having been obtained in all of these cases good results from the treatment employed.

5. In all cases presenting this affection the pus should be examined microscopically in order to at least establish the prognosis.

6. Treatment, which always should be energetic from the onset of the trouble, may consist of copious bathing with solutions of permanganate of lime or boric acid, and caustic application with nitrate of silver.

B.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D., HOMER E. FRASER, M.D.

Applications in Seborrhea Capitis

Herbert Skinner (*Brit. Jour. of Derm.*, February, 1897, p. 70) states that there is need for a good medium for the combination of various substances, and recommends the following new soap formula for cleansing the head:

Castile Soap	1 oz.
Rectified Spirits	1 oz.
Methyl Ether	2 dr.
Water	3 oz.

Dissolve the soap in the water, add the spirits and bitters. If desired various ingredients can be added, as for instance hydrarg. bichlor.

A shampoo liquid of the following is as effective as the stronger potash or soda soaps:

Ammonium Carbonate	½ oz.
Boracic Acid	1 oz.
Distilled Water	1 pt.
Glycerin	4 oz.
Bay-Rum	1 pt.

Quillaja washes are not infrequently met with, generally consisting of perfumed spirits or lavender water two parts, and liquid extract of quillaja one part. This is used for cleansing the head, although while soothing its cleansing properties are doubtful. A new formula made with saponin is an improvement:

Saponin	20 grn.
Tincture Benzoin	1 dr.
Distilled Water	½ oz.
Glycerite Carbolic Acid	1 dr.
Cologne Water, q. s. ad	1 oz.

Dissolve the saponin in the water and add the other ingredients.

The number of "hair tonics" is legion. Quinine is one of the chief ingredients. Two are given; the first contains quinine, the second is excellent from the small quantity of oil it contains:

Quinin Sulphate	20 grn.
Dilute Sulphuric Acid	qs.
Tincture of Cantharides	1 oz.
Hazelin	2 oz.
Glycerin	1 oz.
Orange Flower Water	ad 8 oz.

Tincture Cantharides	14 dr.
Tincture Cinchona	2 oz.
Benzoin	6 dr.
Spirits of Lavender	1½ oz.
Castor Oil	2 dr.
Alcohol	10 oz.

While lanolin is the most natural grease for the hair it is difficult to apply. If, however, it is combined with saponin, it forms a liquid lanolin, which is very well adapted for a "hair-oil." The formula given is as follows:

Lanolin	½ oz.
Saponin	4 grn.
Water	½ oz.
Alcohol	1 dr.

Dissolve the saponin in the water and stir in the lanolin, previously melted. Cool, add the spirits. This can be added to the tonic preparations, or various drugs can be combined with it. S.

Ringworm as It Appears in Boston

At a meeting of the Boston Society of Medical Sciences, held May 18, 1897 (*Jour. of the Bost. Soc. Med. Scien.*, May, 1897), Dr. C. J. White gave the results of his work upon the above subject. The author's researches extend over two winters, and his conclusions are based upon about two hundred microscopical examinations and between three and four hundred inoculations. Dr. White declares thus:

The Microsporon audouini occurs in the majority of cases in ringworm of the scalp; in Boston 95 per cent. of all scalp cases are due to this plant, in Paris 60 per cent., and in London 80 to 90 per cent. This plant has never been found in the scalp of an individual after the age of 14 years. In Paris this variety has not been isolated from the beard or from the smooth skin, but in England it has been found in the beard, and in Boston it occurred three times in the beard and three times on the body. Thus with us, it proves to be the commonest variety of ringworm, causing 56 per cent. of all cases of this disease.

The Microsporon audouini occurs always on the outside of the hair. This growth consists of innumerable small round spores about 3 micromillimeters in diameter, and it is only in the very newly infected hair that one can perceive any mycelium. The spores lies in a dense mass, the arrangement of which Sabourand aptly compared to a mosaic.

The megalospora occur both inside and outside the hair, and at times the whole shaft is invaded and surrounded. Here we find the spores varying in size from 5 to 7 micromillimeters. They are not round, but rectangular, and the mycelium is always visible. In Boston the mycelium has always proved itself resistant to heat, while in Paris this was not the case.

For the quick examination of the specimen the author recommends placing a few drops of ether over the hair or the scalp to remove the fat, and secondly, a few drops of a 40-per-cent. solution of caustic potash to dissolve the keratin. Place a cover-slip gently over the specimen, and in a few minutes examine the slide with most of the light excluded. Don't mount in glycerin, for the refraction of the fungus and the glycerin is so nearly alike that the plant will be scarcely discernible.

For the staining and preservation of the specimen, Malcolm Morris, of London, recommends the following method which he claims is the best one yet devised, as it avoids the use of the potassium hydrate which he says must alter the shape and size of the spores:

1. Ether.
2. Solution of 5-per-cent. gentian violet in 70-per-cent. alcohol. Five minutes required for the microsporon; one half-hour and heat for five minutes for the megalosporon.
3. Iodine solution.
4. Anilin oil, or 2 to 4 drops HNO_3 in anilin.
5. Anilin.
6. Xylol.
7. Xylol balsam.

For the inoculation of the medium very little care is necessary. A very small scale or a small part of a hair is placed in the center of a large flat surface of the medium, the cotton replaced and the Erlenmeyer flask put into the thermostat at a temperature of 37° C. One must not expect any signs of growth much before a week is passed. B.

Methodical Diagnosis

The March number of *The Corpuscle* contains the conclusion of Dr. Frank H. Montgomery's interesting article on the above topic. Instead of taking up the heading outlined in the first portion, he considers only those more obscure, and needing elaboration. Objective symptoms are divided as follows:

(*a*) Accidental Features.—As many cutaneous diseases are masked by accidental manifestations, as, for instance, drug rashes, dermatitis from scratching, etc., it is of the greatest importance that the accidental nature of these symptoms be recognized.

(*b*) Site.—The location of an eruption may be of great value in diagnosis, as, for example, palmar lesions. It is well and useful to remember that palmar syphiloderm is of frequent occurrence, while psoriasis of the palms is exceedingly rare.

(*c*) Symmetrical Eruptions.—When the lesions are on both sides of the body, it is not necessary that the affected surfaces be identical in size and shape.

Section F is devoted to the study of the individual lesion: First, definition; second, arrangement; third, color; fourth, size and situation; and lastly, development. Much of importance can be learned from thoroughly understanding the important trademarks of the lesions themselves. S.

Duty of Physicians in Cases of Venereal Disease

Dr. Myles Purvin, of Brooklyn, in a communication to the AMERICAN MEDICO-SURGICAL BULLETIN, says:

"I think it the duty of physicians to enlighten the minds of the laity regarding the communicability of venereal diseases through matrimony. It is surprising to know how ignorant are the laity, principally the women of the better class, regarding venereal disease.

"Many an innocent woman's happiness has been blighted and health ruined forever simply by her ignorance in failing to learn of the physical condition of her prospective husband. Only recently a patient suffering with syphilis and chronic gonorrhea, of a number of years' standing, asked me as to the advisability of his marrying. His insane desire to wed was soon clashed by my drawing in colors loud the misery, not only to himself and wife, but also to his progeny.

"The anxiety of the parents to get rid of their daughters when they arrive at a marriageable age is perhaps the reason for their losing sight of this most important fact in their endeavors to consummate a settlement of the so-called 'good catch.'

"It should be the duty of family physicians to educate their patients, warn them of this surreptitious disease, which knows no class, no wealth, but which is propagated from person to person through sheer neglect or ignorance.

"In this day of great discoveries, of distinct advance of medical science, nothing, it appears to me, seems more plausible and life-saving than prophylaxis.

"Why should not the innocent or ignorant layman be warned by his physician, or better still, why should not the layman demand of his prospective son-in-law a certificate from a physician stating his physical condition prior to marriage?

"Is not the syphilitic, philosophically speaking, as dangerous to mankind as the innocent sufferer of tuberculosis?

"Why not demand the physicians to report their cases of syphilis as well as tuberculosis to their respective health boards?

"It is true that isolation or antisepsis is unnecessary, but the communicability of syphilis, directly from sexual intercourse, or indirectly from towels, instruments, dishes, etc., demand that it should be obligatory for the physician to elucidate to his patients this dreaded disease, which to the mind of the layman is a dark secret."

OBSTETRICS AND GYNECOLOGY

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. DeForest, M.D., H. T. Hotchkiss, M.D.

A New Anatomical Feature of the Peritoneum

Progrès médical (T. V, No. 15, 1897), in reporting the Academy of Sciences, gives the following: We know that there are openings on the peritoneal wall of the frog connecting the lymphatic and serous sacks—Ranvier's lymphatic wells. J. J. Andeer has just discovered in the peritoneum of vertebrates a new appearance analogous to that. Examining a portion of frog's peritoneum, suitably selected and prepared, under a low power, we see a number of holes giving the membrane a skimmer-like appearance. On the serous side they are provided only with a simple transparent epithelium. Seen from a subserous aspect they show, on microscopical examination, sphincters with smooth muscles like those of the pylorus and bladder. Above these openings we find a lymphatic sinus rich in spiral lymphatic capillaries. The author proposes to show finally the untoward consequences that may follow, in man and animals, the affections which cause chronic or acute stoppage of these openings. U.

Operative Treatment of Uterine Displacements

The *Chicago Clin. Rev.* (No. 6, Vol. VII, p. 283, 1897) devotes a frontispiece to O. B. Will, M. D., of Peoria, Ill., and gives a first place to his clinical observations on the above subject. His first claim is that displacement of the uterus is due to causes existing in the organ itself, and that known methods of suspension are of doubtful utility. The uterus is not by itself the cause of displacement, when of normal size and weight, and should not be "the fixed center of support to a faulty intrapelvic structure." All forms of "fixation," as well as extirpation, are unsatisfactory in ultimate results, however they seemed to "accomplish their immediate purpose." He gives five illustrative cases:

(1) Abdominal fixation after explorative laparotomy for relief of menstrual pain and pelvic distress in a saleswoman, has in five years but little reduced the menstrual pain while the pelvic distress and vesical irritation have increased. The uterus has become heavy, fixed and hardened.

(2) An eminent Eastern surgeon two years ago made an abdominal fixation for a case of retroversion with adhesions, lumbar and sacral pains and recurring attacks of severe digestive disturbances, with relief of backache and sacral pains, but the new complication of frequent micturition and intermenstrual discharges of blood with pain of short duration. The uterus was mobile but fixed closely upon the bladder.

(3) Laparotomy and oophorectomy for distresses from prolapse and "cystic disease" of ovaries were followed by gain in flesh. The patient still suffers pain in pelvis; has become very weak, and has had to abandon her occupation requiring much standing. The uterus was attached high up to the abdominal wall.

(4) Extirpation of the uterus and adnexa for vicious pelvic hernia, well done, with good recovery, was followed by much suffering from general nervous and mental systems, even amounting to frenzy at the time of menses.

(5) Severe prolapse was treated by partial restoration of the perineum and suspension of the uterus over the bladder. Slow recovery was followed by "distressing cystitis or severe vesical tenesmus growing more intense each year." Micturition is frequent and painful, and the kidneys have become involved.

He adds to these three cases following his own work, with no better results. The frequency of such results leads him to say that the principles and methods now in vogue are radically wrong. He believes the uterus was "intended to be practically unlimited in the area of its movement; if it is light enough it can be no harmful force in the economy of pelvic forces and their reflex influences on the general system." If thus "light enough" and its substructures in a fairly normal condition, "there can arise no disturbance legitimately attributable to the position of the uterus itself. We are far too prone to mistake manifestations of nutritive aberrations and direct neurotic disturbances for evidences of mechanical irritation in these parts. Systemic influences are liable to be overlooked;" and, often, active medication may suffice. But a true *materies morbi*, causing hypertrophy in the uterus, non-amenable to depletory, stimulating, or absorbent medication, must be treated by surgical means suitable for restoring the uterus to its size, position and function.

"To fulfil practically all these indications is merely to attain to the first. There is scarcely any organ of the human body, if it can be attacked surgically at all, that will not admit of removal of certain portions of its structure without apparent detriment to its functions." And certain portions of the parenchyma of the uterus can be removed with as much impunity as can portions of the brain. Therefore, "a judicious resection of those portions of the uterus least essential to its functional integrity" to reduce the organ to normal calibre and weight, is advocated. Treated on this principle was Mrs. H., 31 years, mother of three children, youngest 3 years, who had suffered for years with headache, sacral and abdominal pain, constipation, vesical irritability and pains running down into the legs. The left ovary was prolapsed, pressed upon by the heavy fundus of a large, hard, retroverted uterus. There was interstitial hypertrophy without much glandular disorder of the cervix. Much tamponading gave only temporary relief. The vaginal attachment was dissected up both back and front, and a wedge-shaped section about two inches long removed from both the anterior and posterior halves of the uterus. Forceps coaptated the edges till catgut sutures were put in above and silk-worm gut below long enough to be easily removed. After the vaginal cuffs of tissue had been sewed back to their former position, tampons were placed so as to forcibly antevert the uterus. The uterus gradually decreased in weight, and now, two years afterward, is in normal size and position, and gives no trouble. Mrs. E., 41 years, two children, youngest 4, suffered almost constant vesical tenesmus and pelvic distress since last labor. The uterus was prolapsed, with tendency to retroversion, exceedingly hypertrophied in lower segment, cystic and sclerotic anteriorly. The same operation was done, broader and shorter segments being removed and the cervix being almost amputated. She recovered from all disagreeable symptoms, including vesical disturbance. These are two of many similar cases. The cases are given as confirmatory of the principle, "that it is not fixation nor removal, but restoration of equilibrium that is primarily required in the class of cases under discussion." The applicability of this procedure is coextensive with, and superior in results to, that of any of the various methods of fixation.

Equally good results were found in cases of retroversion with adhesion, the adhesion being boken up through incision in the posterior vaginal pouch. The disorder that cannot be thus relieved is clearly due to nutritive or neurotic disturbances not directly connected to the local status etiologically.

In all operations of the kind retrograde metamorphosis is established in the tissues, the result of intense nutritive changes invited by such radical invasion. "The interstitial elements are broken down and absorbed, the fibrous constituents contracted and condensed, and the organ as a whole reduced in size and weight; in other words, a comparative atrophy takes place." No natural process of any system or part is thus interrupted; all other pathological conditions remain unchanged, and no new ones are imposed.

In one pregnancy following such process, the labor was tedious and painful, though not more so than before, and convalescence was good, with only slight bilateral cervical laceration.

Gynecological Uses of Ichthyol

Dr. Lorain publishes in the *N. Y. Med. Jour.*, No. 959, p. 544, an account of his experience with this drug in his private practice, with a description of his mode of treatment, and the results he has derived from it, as follows: (1) Ichthyol, employed as a vaginal application and in inunctions on the abdominal wall, has an analgetic action that shows itself from the first application. This action is never absent, and becomes more pronounced if the treatment is persevered in.

To the purely symptomatic and subjective effects may be added its antiphlogistic action. The numerous cases in which this treatment was employed by the author differed greatly as regarded their gravity and the duration of the affection, so that the results obtained were not always identical. In a general way, under the influence of repeated ichthyol applications during a variable period, inflammatory lesions of the annexa, of the peritoneum, and of the pelvic cellular tissue had a marked tendency to resolution. The annexa diminished in size and regained their mobility, and at the same time they became less sensitive to pressure. The pelvic exudations became absorbed and the vaginal vault gradually regained its normal flexibility. In cases of slight or medium intensity, recent recovery was nearly always obtained in from three to four months, without being obliged to resort to any other mode of treatment; the patient was also able to keep up her daily occupations. In the graver cases which are complicated by acute or subacute attacks of inflammation of the peritoneum or the annexa, a very marked amelioration was always obtained by employing revulsion on the abdomen and rest in bed in addition to the ichthyol treatment. In old salpingo-oöphoritis complicated with sclerous annexal peritonitis intravaginal compression practised with saturated ichthyol tampons, associated with massage, gave excellent results.

Among the patients observed by the author there were many who suffered from an inflammatory lesion of the neck of the uterus, and some presented symptoms of elytritis; these patients appeared to be greatly benefitted by the application of ichthyol.

Administed by the digestive tract, ichthyol favored the digestive functions by its tonic action on the stomach; it raised the arterial tension, and thus contributed to favor the absorption of the pelvic exudations.

The author concludes that, on the whole, ichthyol, owing to its analgetic, antiseptic, antiphlogistic, and resolvent actions, may render real service in gynecology if its employment is judiciously associated with other therapeutic measures, according to the indications. F.

Syphilis Given by a Child to its Wet-Nurse

The legal bearing of the following case is not less interesting to us than the clinical history as narrated in the *Jour de Cliniq. et de Thérap. infant.* (No. 1, p. 17, 1897): A country wet-nurse was carefully examined and found absolutely healthy before the child of a Parisian couple was given to her to nurse. Two months afterward, the local doctor found a chancre on the wet-nurse's breast and apparent signs of secondary syphilis in the child. A little later the child died of cachexia, and the nurse's husband and little daughter were both infected. The wet-nurse's husband brought suit against both parents of the infecting child, but the Tribunal of the Seine found for the defendants for three reasons:

1. Because the nurse and her husband could not prove that it was the child that had given the disease to the nurse;
2. Because they could not prove that the child had syphilis when it was intrusted to the nurse;
3. Because, supposing the child had the disease, they did not prove that the parents knew of it.

The court had entrusted the scientific part of the investigation to Prof. Fournier to inquire:

1. Did the syphilis of the nurse come from the child, and what caused it in the child?
2. Did the parents know, when giving their child to the nurse, that it was possible for it to communicate this disease to her?

Prof. Fournier's response was: That there was no doubt the child, having hereditary syphilis, had given it to the nurse, who had in turn given it to her own child and her husband. After thorough examination of the parents of the syphilitic child, the professor could not discover in either the least vestige of syphilis, so that he could not ascertain which parent had transmitted it, though he affirmed that it certainly came from one of them, and added that the one who had had it must have known it, and knowing it, ought not to have given his child out to nurse.

The nurse's child afterward died, and the nurse in despair committed suicide.

The decision of the court was contrary to that given in all former cases of this kind, and was thus argued:

Responsibilty of parents for children was not an absolute one, like that of ownership of an animal, because it could be put in play only by a conscious act of the child, and then only when it was under the care of its parents. The responsibility of the parents could result only in a personal fault to each of them. They were, therefore, not collectively responsible, though it was established that their child had given syphilis to its nurse. It must be known which parent gave the hereditary disease, for he alone could be presumed to know the danger to the nurse, unless it could be proved that both knew the state of the child.

In equity, great injustice might be done from failing to know definitely, *e. g.*, a syphilitic mother might transmit the disease to her child, unknown to her husband, and vice versa; then, how unjust to make the ignorant share the punishment of the guilty?

But when it is possible to know which parent has been the source of the disease, then his act in giving his child out to nurse, he is responsible for and can be held accordingly.

The editor, who has taken the account from *La Méd. moderne*, does not share the opinion of that organ in agreeing with the decision of the court. U.

Cracked Nipples Treated with Steresol

The *Bul. gén. de Thérap.* (No. 1, Jan. 15, p. 37, 1897), gives a summary of Dr. Audeber's article in *Rev. méd. de l' Est*, July, 1896. He claims early cicatrization in use of steresol for cracked nipples because of antiseptic properties. As applied it keeps the child's lips from direct contact with the tender cracks and thus avoids causing the pain usual in sucking. It is innocuous to the child. It neither lessens nor increases the quantity of milk. It is especially useful in the long cracks at the base of the nipple, and does not obstruct the milk-ducts. After washing the nipple with boric-acid solution, the first layer of steresol is applied; ten minutes later the second layer is used; fifteen minutes later the child may nurse. H.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Epidemic Cerebro-Spinal Meningitis

Dr. W. T. Councilman presented an abstract of a paper to the Boston Society of Medical Sciences (*Jour. of the Boston Soc. Med. Scien.*, April, 1897) which was read before the Association of American Physicians in Washington, May, 1897, on the above subject.

In a recent epidemic of cerebro-spinal meningitis in Boston, the diplococcus of Weichselbaum has been found in nearly all cases. In nine out of twelve autopsies, made on those who had died from the disease, it has been seen either in cover-slips, in cultures, or sections, and usually in all. Cultures were best grown on blood-serum. The growth appears on this after twenty-four hours in the shape of moist, rather viscid, grayish, opaque colonies slightly elevated above the surface. One peculiarity is the presence of many apparently dead bacteria which will not grow on the culture-media. Microscopic examination of the culture shows organisms varying considerably in size, almost always arranged in the form of diplococci or tetrads; occasionally chains consisting of from three to six cocci are found.

The author was not able to confirm the observation of Jaeger that the organism could grow out into comparatively long chains, simulating streptococci. The examination of the cultures showed also a great variety in staining; some stain clearly with methylene-blue; others are swollen and stain imperfectly. Both in the tissues and cover-slips they are completely decolorized by Gram. In bouillon they do not grow with the same facility as on blood-serum, and in order to produce a growth it is necessary to inoculate a large amount. The diplococcus has been found pure in most cases, in others it has been associated with the pneumococcus and with a streptococcus. The lesions found at autopsy differed but slightly in the different cases. The exudation is found in the pia arachnoid of the convexity of the brain along the course of the vessels, and in greatest amount in the sulci. There is usually more at the base of the brain than anywhere else, and here it is often found to follow along the cerebral nerves extending even into the foramina. In all cases the cord has been also involved. In the cord the exudation is chiefly along the posterior surface. The exudation in the brain is always in the meshes of the pia arachnoid and not on the surface. In the cord it is frequently found free in the subdural space lying on the surface of the pia. Microscopically the exudation consists chiefly of pus-cells and fibrin. The fibrin though present is never in the same amount as in cases of pneumococcic meningitis. Where the exudation is extremely thick the fibrin is often swollen up and forms hyaline masses. The diplococcus is almost exclusively found in the pus-cells. They occur in greater numbers in the exudation in the cord than in the brain. A few are found outside of the pus-cells, their presence here being probably due to the breaking down of the cells containing them. In the exudation there are always found large swollen cells with a vesicular nucleus. Many of these contain leucocytes showing more or less degeneration, which lie in a vacuole in the cell. Among these large cells there are very large protoplasmic masses, many of which are as large as the giant cells in tuberculosis, filled with granular material and nuclear detritis. These large cells result from the proliferation of the endothelial cells of the lymph-spaces in which nuclear figures have been found. The diplococci have never been found in either of these large cells or in the leucocytes which they contain. In a few cases, foci of purulent infiltration and hemorrhage have been seen in the tissues, both of the brain and cord. The organisms have in general occurred only in the lesions of the disease. B.

Experimental Investigations Regarding the Etiology of Sarcomata

According to Juergens (Berlin) *Centralbl. f. Chir.*, No. 31, 1896, pp. 15-16), there are sarcomata that must be looked upon as being infectious, inasmuch as they can be inoculated to animals. The cause of the development of these growths must be attributed to sporozoa (?) that are present in the primary tumor. J. took from the cadaver small pieces of a round-celled sarcoma in which sporozoa were abundant and inoculated the same into the abdominal cavity of rabbits. They produced tumors in the mesentery, lungs and kidneys of these animals, and these tumors could again be inoculated with success to the third generation, although the tumors of the later generations took longer time for development—the last one three-quarters of a year. The first result observed after inoculation is that the inoculation material becomes encysted in adhesions. Then small protoplasmic corpuscles can be seen to pass into the endothelial cells; here they grow so that they fill up the entire cell-space and develop into round or oviform coccidia similar to the oviform coccidia in rabbits. Then are developed nuclear sporozoa. The micro-organisms can also be traced in the blood, which circumstance will explain the early formation of metastases. It has not been ascertained as yet in which stage of development the sarcomata are produced.

Similar experiments have been undertaken with melanotic sarcomata, with the result that analogous tumors were produced in the peritoneum within two or three weeks, and metastases were likewise formed. The new formations of the T generation, however, soon lapsed into fattv degeneration and could not be used for further inoculation.

A third series of experiments was undertaken by J., with the contagious epithelioma of the chicken caused by gregarines. He accidentally hurt himself during these experiments, and a tumor developed on his finger, which was found to contain gregarines; it was, however, soon combatted by local sublimate treatment.

In chickens the infection is frequently fatal, as, for instance, through pneumonia and pericarditis; although also here the inoculations caused a diminished virulence of the gregarines after repeated inoculations.

In conclusion, J. mentions the case of a 16-year-old boy with tumor formations in the intestine (certainly not syphilitic), in which he found enormous proliferations of amebæ, such are as found in mesenteric glands, and from which culture could be raised. B.

On the Iodine Test for Semen

Dr. Wyatt Johnston (*Boston Med. and Surg. Journal*, No. 14, 1897) attaches great significance to the above-mentioned test, first suggested by Dr. Florence, of Lyons. When a drop of the liquid obtained by moistening a seminal stain is placed alongside a drop of Florence's reagent:

Iodide of Potassium	1.65 gme.
Iodine	2.54 gme.
Distilled Water	30. c. c.

on a glass slide or watch-glass, so that the edges of the drops come in contact, there appear almost immediately large numbers of peculiar, brownish-red, pointed crystals. These are rhomboidal, and resemble so closely in form, size and color the hemin crystals that they could readily be mistaken for them, though a careful examination shows points of difference. The crystals are sparingly soluble in cold and very soluble in warm water, reappearing again on cooling. They are readily soluble in ether, alcohol, acids, fixed alkalies and iodide of potassium; they resist solution in very weak ammonia solutions. On exposure to the air, they gradually disappear, but reappear on adding a fresh quantity of the reagent. Dried stains usually give the reaction in a manner fully as prompt and typical as fresh semen. The nature of the substance which occasions the reaction has not yet been thoroughly established. According to Dr. Florence, it is due to a distinct substance which he terms viviespermine.

By using a larger quantity of material, the reaction can be obtained in the test-tube, an abundant red or chocolate brown deposit of crystals being thrown down. A single fiber teased out of a thread in a piece of cotton stained by semen is sufficient to give a profuse crop of crystals under the microscope.

The writer has made a number of tests with various secretions of the body, such as blood, urine, sweat, saliva, tears, bile, milk, pus, nasal and vaginal mucus, and has always obtained negative results, or at all events never a characteristic reaction.

The writer is thoroughly convinced of the decided value of the test. More corroborative testimony will, however, be required before its reliability will remain incontestable. O.

Detection of Arsenic in Medico-Legal Cases

At a meeting of the Boston Society of Medical Science, held March 30, 1897, Dr. E. S. Wood considered this subject. The author believes that in cases of this kind the ordinary chemical analysis of the organs is of no value, since it is impossible to say in most instances whether the arsenic isolated by the ordinary processes used in analysis comes from the embalming fluid or from arsenic injected before death.

In such cases the diagnosis of arsenic-poisoning can only be made by detecting the presence of white arsenic crystals in the alimentary canal. This is a very easy matter in those cases in which large quantities of solid arsenic have been taken and death has occurred quickly, so that large accumulations of As_2O_3 crystals remain in the stomach or intestines. The crystalline masses can then be picked out with forceps, washed in water, and recognized by microscopic examination and chemical tests.

In cases in which only a comparatively few crystals remain adherent to the mucous membranes of the stomach and intestines, and then only in isolated crystals or in such small aggregations that they cannot be seen by simple inspection, the isolation and recognition of the crystals become extremely difficult, partly on account of the loss entailed by repeated washings by decantation with water, and partly on account of the impossibility of distinguishing between the crystals of As_2O_3 and other crystalline substances, such as phosphatic crystals or minute particles of silica or other crystalline mineral matters which may have been taken with food, or have become mixed with the contents after removal from the body in the form of dust.

To avoid these difficulties, the following modifications of the usual process have been used with success. First, to use alcohol instead of water in washing by decantation. The arsenic crystals are less soluble in water than in alcohol, and the crystals will sink more rapidly in alcohol than in water. And, second, after most of the organized debris has been eliminated by the washing, H_2S is passed through the alcohol with the solid matter in suspension. This covers each crystal of As_2O_3 with a yellow coating of sulphide, which renders the distinction between the As_2O_3 crystals and other crystalline substances very positive and comparatively easy by microscopic examination with low powers. B.

Disease-Producing Yeasts

Curtis describes a form of yeast, Saccharomyces subcutaneus tumefaciens, in *Annales de d'Institut Pasteur*, 1896, No. 8, which was obtained in pure culture from an abscess in the lumbar region, which at first resembled myxosarcoma.

In pure culture the yeast inverts cane-sugar, producing alcohol and acetic acid. Experimentally, it produces in man subcutaneous tumors which resemble myxosarcomata. The organism is also pathogenic for rats, mice, dogs, and rabbits.

J.

A Simple Method of Preparing Nutrient Agar-Agar

According to Dr. H. B. Sheffield, *N. Y. Med. Jour.* (Vol. LXV, No. 19, 1897), the preparation of agar is greatly facilitated by the following method of filtration: Place the flask containing the agar mixture (bouillon and agar) in a plain kitchen pot filled with boiling water up to one inch above the level of the mixture. Heat it for two hours over a free flame. Filter the mixture through a thin but dense cloth (preferably linen), stirring it gently with a glass rod. In this manner filtration progresses rapidly. Now place the filtered agar, contained in the flask, into the pot and boil as before for about three-quarters of an hour. Prepare two paper filters and adjust them in two separate funnels set in flasks. Pour the agar mixture slowly through the filters in a continuous stream, in order to keep up the temperature and liquidity of the medium. All lumps and foreign substances of the agar which hasten its solidification having been retained in the cloth filter, the filtration through the paper filter is now comparatively easy. As soon as the fluid filters in drops, pour back the agar from both funnels (by piercing the filter) into the original flask and boil as before for about ten minutes. Repeat this process until all the agar has been filtered. O.

On the Presence and Significance of Certain Mitotic Forms in the Posterior Spinal Ganglia of Paralytics

In rabbits, Tirelli (*Annali di freniatria.*, Bd. IV, p. 1) was able to discover mitoses only in the embryo. In the cases examined the spinal ganglia were found to contain various phases of mitoses, but only in those paralytics of long standing. Mitoses were found in greater abundance, apparently belonging to the connective-tissue cells of the ganglionic capsule. This would be evidence of growth of these cells, and has its important bearing on the causes of the disease. Especially important in syphilis and alcoholism, as it would seem that in both of these conditions active mitotic figures are more common. J.

Bacteriology of Mothers' Milk

The *Jour. de Cliniq. et de Thérap. inf.* (No. 16, p. 313, 1897) contains an abstract of Köstlin's contribution to *Archiv. für Gyn. Vratch* (No. 12, 1897). Does the milk of healthy mothers contain microbes, or is it sterile? Most observers have found even pathogenic micro-organisms, most often the white staphylococcus.

The author made most minute bacteriological examinations of milk in women, as follows: Pregnant (100), parturient (137), and of the contents of the mammary gland in 60 nurslings. He also examined the gland and the areola. The milk (colostrum) of the pregnant women contained micro-organisms, in the great majority of cases, to the extent of 86 per cent.; of parturients 91 per cent., and of nurslings 75 per cent. The white staphylococcus was oftenest found passing within from the areola where it abounds. But they are little harmful for mother or child. Inflammations of the gland are provoked by these same bacteria when passing through the lymphatics of the skin. It is demonstrated that microbes enter the mammary gland by means of the blood. H.

THERAPEUTICS AND PHARMACOLOGY

William Fankhauser, M.D., W. J. Robinson, M.D.,
David M. Stäbler, M.D.

Linseed-Tea in Diabetes

Prof. H. W. Vogel recommends very highly the employment of the above remedy in diabetes (*Arzo. Rundschau,* Vol. VII, No. 12, p. 182). He used it in a case of diabetes mellitus of seven years' standing, and by a systematic employment of the linseed-tea he would always succeed in reducing the amount of sugar from 3 and 4 per cent. to 0.1 per cent., or even 0. The tea is prepared by putting a tablespoonful of flaxseed in 900 c.c. (2 pints) of water, boiling until the volume is reduced to 600 c.c. (20 oz.), and drinking it in three divided portions through the day. This linseed-tea treatment is now trying in the Berlin City Hospital, Friedrichshain. The author calls attention to the fact that, in conjunction with this treatment, the rules of the diabetic hygiene and diet must be strictly complied with. M.

Arsenic-Poisoning Through the Vagina

Dr. Haberda, in *Wiener kl. Wochens.*, No. 9, reports a case of fatal poisoning of a girl 23 years old, who introduced some arsenic into the vagina in order to produce abortion. The post-mortem showed an intense inflammation, not only of the spot where the arsenic came in contact with the vaginal wall, but of the entire vagina and external genitals. Cases of this nature are very rare, this being the fifth case reported in literature.

Veratrum Viride in Puerperal Convulsions

In an article on this subject, Dr. Wm. Henry Thayer (*Boston Med. and Surg. Jour.*, April 1, 1897) says that in the condition of the nervous system that exists in puerperal convulsions, there is a peculiar tolerance of veratrum viride, so that the officinal dose has no effect. But large doses quiet the nervous erethism, producing a decided effect in a short time—sometimes in fifteen minutes, but almost certainly within an hour—and keeping the nervous system under control for several hours.

The administration is followed by cooling of the surface, great lowering of the pulse in rate but not in strength, and along with this complete arrest of the convulsions. The state of the pulse is the guide in treatment. From a high rate, which rules in the disease, it is reduced to the normal standard or below it; and while it is kept below 60 there need be no fear of a recurrence of the paroxysms. When this effect has been once produced, it will continue several hours, and a single dose will do it; if not apparent within an hour or less, the medicine must be repeated in smaller doses; and it can be safely repeated at intervals until the pulse begins to fail. With the pulse for a guide, no untoward symptoms need occur from its use; the pulse may be brought down to 50, without any general depression; if carried so far as to produce vomiting, we may find great prostration produced by the nausea, which is overcome within thirty or forty minutes by opium, or any diffusable stimulant—perhaps in less time by a solution of morphia hypodermically. B.

The Treatment of Ozena by Electrolysis

In the *Wiener klin. Runds.*, Vol. XI, No. 10, Prof. Rethi, of Vienna, speaks very enthusiastically of the employment of electrolysis in fetid ozena. He says that this method, introduced by Gautier, and afterward reported on so favorably by Bayer, Chaval, Copart and Rousseaux (the latter three report 91 per cent. of permanent cures), is one of the greatest advances made in rhino-therapy; it can be regarded almost as a specific in this rebellious disease. Personally, Dr. Rethi treated eight cases of genuine ozena of long standing, and in every one of them he—in from one to four sittings—effected either a permanent cure or at least such a marked improvement, as could not be accomplished by years of routine treatment: tampons, antiseptic applications, iodine-glycerine, injections, trichloracetic acid, etc. The application of the method is simple. After cleaning and cocainizing the nasal cavities, the positive electrode, terminating in a copper needle is inserted into the middle turbinated, and the negative electrode—a platinum needle—is inserted into the wall of the septum of the same side. The seance lasts from three to five minutes. Some authors recommend a strength of only 5 milliamperes, while others give as high as 18-30 MA. The author, though, says it is best to guide one's self by the sensations of the patient, increasing the current as long as the patient is able to bear it.

In a case of a girl of 19, who had had a purulent secretion from the nose for five years, with constantly forming scabs, with severe headaches, etc., and where all other treatment was of no avail, a permanent cure was effected by one seance of five minutes' duration. The treatment almost invariably produces severe pain in the temple and behind the ear (on the side corresponding with the nasal cavity, where the needles are inserted), but though recommending caution, the author does not consider it a contraindication. As to the rationale of the treatment, the author (with many other authorities) regards ozena not of bacterial origin (if bacteria are found they are the result, and not the cause), but as a distinct tropho-neurosis, and believes that the electrolysis acts directly upon the nerve-endings of the nasal mucous membrane, restoring the nerves to their normal condition, and thus the secretion becomes normal. M.

Phenamine and Triphenamine

The name "Phenamine" (or "Phenaminum") has been improperly applied to phenocoll, and that of "Triphenamine" (or "Triphenaminum") to a supposititious new remedy contained in a certain mineral water, intended for use in rheumatic complaints. It has been found (*Pharm. Ztg.*, XLII, p. 99), however, that "triphenamine" is simply a mixture of phenocoll (2.6 parts), phenocoll salicylate (1 part), and phenocoll acetate (0.4 part.) "Phenamine" is a misnomer, since phenocoll is not an amine, but contains an amide group. F.

Recurrent Tonsillitis Treated with Injection of Carbolic Acid in the Tonsil

Kramer (*Centralblatt für Chir.*, No. 47, 1896, *Univer. Med. Mag.*) has employed for several years injections of carbolic acid into the tonsil for the relief of recurrent tonsillitis. He reports fifteen cases where there has been freedom from the disease for two years or more. The treatment is based upon the theory that recurrent tonsillitis is due to the retention of micro-organisms in the glands. The treatment was begun several weeks after recovery from an acute attack, and consisted in the injection of carbolic acid 1:40 for two or three days, until from four to six injections had been given. After cocainizing the part the sterilized needle of the syringe was introduced one centimeter into the anterior pillar of the fauces, and if no bleeding followed, the carbolic solution was injected drop by drop, the needle being pushed in several directions, until fifteen minims had been injected. There was very little local reaction. B.

Nucleohiston

Nucleohiston is described as an albuminoid obtained from the lymph and thymus glands of calves by Dr. Lilienfeld (*Wien. med. Blatter*, 1897, p. 27), and is considered by him to be the active constituent of the leucocytes. It is a white powder, soluble in water, mineral acids and alkalies. Nucleohiston may be split up by certain chemical agents into nuclein and histon. Nuclein, and its further decomposition-product, nucleinic acid, hasten the coagulation of the blood, whereas histon tends to retain its fluid.

According to Drs. E. Freund and Grosz (*ibid.*), histon, like other substances that prevent the coagulation of blood, possesses anti-toxic properties. It may therefore be applied, perhaps, for effecting immunization, as is done by other substances not of bacterial origin.

F.

Benzoiodhydrin—Succedaneum for Potassium Iodide

Chenal (*Brit. Med. Jour.*, No. 1887, p. 32) suggests this glycerinic ester as a useful substitute for potassium iodide. It is prepared by shaking a mixture of benzoyl iodide and epichlorhydrin, at a heat not exceeding 158° F.; the resulting brown, fatty mass, benzochlorhydroiodohydrin, is soluble in ether, alcohol, and petroleum oils, but not in glycerin. Administered in doses of 0.13 gme. (corresponding to 1 gme. of KI), he found that it caused no disagreeable symptoms of iodism; and from twelve observations he concludes that its immediate therapeutic effects are equal to those of the potassium salt, while it is more slowly eliminated, and a small dose is required. He attaches much weight to the antiseptic action of the considerable proportion of benzoic acid and chlorine contained in the drug, but admits that the question as to the permanence of the results requires more prolonged observation. F.

New Treatment of Diabetes Insipidus

Dr. H. Brackman (*Therap. Monatsh.*, X, p. 64) reports having treated a case of diabetes insipidus with amylene hydrate, in which the results obtained were so striking as to deserve some mention. When the 21-year-old patient first came under treatment, the amount of urine voided daily was 7000 c.c., and was pale, clear, free from pathological constituents, and its specific gravity was 1.005. For nine months there was no change in the conditions, but at the end of that time amylene hydrate was given him on account of sleeplessness, and in doses of 2.5 gme.

It was soon observed that besides the general improvement in condition, the intense thirst was noticeably reduced, and the urine voided fell to 3000 c.c. per day, its sp. gr. rising to 1.011. Within two weeks, under the further use of this remedy, the volume of urine passed varied from 2800 to 2000 c.c.; a suspension of the use of the amylene hydrate caused a rapid increase of the volume of urine to 8000 c.c., and its resumption in doses of 2 gme. daily again suppressed the quantity, within a week, to 2400 c.c., the sp. gr. being then 1.010.

The use of the remedy was at this stage suspended, for certain reasons, and within three weeks the daily volume rose from 5000 to 6000 c.c, and remained constant. At the same time the thirst was also increased. From time to time doses of from 1 to 2.5 gme. of amylene hydrate caused a temporary reduction each time in the volume of urine passed and of the thirst.

The author believes that the results obtained are sufficient to warrant a trial of this remedy in other cases of diabetes insipidus. F.

Cosaprin

This is an acetyl compound of sodium sulphanilate, designed to replace acetanilid, over which it is said (*Pharm. Ztg.*) to possess many advantages, among these being absence of cyanosis on administration and ready solubility in water.

Cosaprin occurs as a white, crystalline mass of crystals, very readily soluble in water, difficultly so in alcohol, and almost entirely insoluble in ether. By continued boiling with acids it decomposes on cooling into sulphanile acid, with the formation of acetic acid; the presence of alcohol determines the formation of acetic ether. F.

Eunatron—A Cholagogue

"Eunatron" is the name that has been given to a chemically pure sodium oleate as made by a certain manufacturer. It is a white powder, melting at a low temperature, and quite free from the rancid taste of the commercial article. It is easily taken inclosed in capsules, or in pills, each containing 0.25 gme. (4 grn.) and coated with chocolate. Dr. F. Blum (*Aerztl. Prakt.*, X, p. 66) states that it is a valuable cholagogue, preferable to sodium salicylate, and the salts of the biliary acids, since it is more powerful, and may be given for months without in any way injuriously affecting the intestinal tract or the general condition. The author also declares that he has repeatedly observed the passage of large quantities of gravel and small calculi follow the administration of eunatron.

The remedy is best administered in the form of pills, of which four are given morning and evening, with meals, for several weeks or even months. The diet and bowels should be regulated, and the function of the latter even assisted by oil enemata, if necessary, to combat any constipation and also to affect favorably co-existing biliary colic. F.

Therapeutic Hints and Formulæ

As an ointment for sycosis parasitica, Brooke (*Excerpta Med.*) recommends the following:

Mercuric Oleate (5 per cent.)	20.0
Zinc Oxide Starch	āā 7.0
Vaselin	14.0
Ichthyol	1.0
Salicylic Acid	1.2

For pruritus ani Penzoldi (*Cent. Therap.*) recommends:

Sodium Hyposulphite	30.0
Carbolic Acid	5 0
Glycerin	20.0
Distilled Water, q. s. ad	500.0

Tampons saturated with the above solution are to be applied to the anus and frequently changed.

For scabies Robow, in *Cent. Therap.*, recommends:

Naphtalin	3.0
Linseed Oil	30.0

Apply externally.

For pityriasis versicolor and herpes tonsurans Robow-Bouget uses:

Naphthol	3.0
Spir. of Lavender	20.0
Green Soap	100.0

For moist eczema Koppel uses:

Cutol (Aluminium Boro-tannate)	4.0
Olive Oil	10.0
Lanolin, q. s. ad	40.0

Chéraw (*Jour. de Méd. de Paris*) recommends the following application in obstinate chilblains:

Sol. Lead Subacet	1.0
Tr. of Soda	1.0
Tr. of Opium	1.0
Starch	2.0
Glycerin	30.0

Apply on lint.

M.

Brief Notes on New Remedies

"Formacoll" is a new name for formaldehyd-gelatin.

"Acetonal" is the name recently given to aluminum and sodium acetate.

"Dynamogen" is a preparation resembling hematogen, and similarly used in anemia and its sequelæ.

"Hydrargyroseptol" is a combination of mercury-quinosal with sodium chloride, $C_9H_6N.O.SO_3Hg+2Na\ Cl$; it is intended for use as an antisyphilitic.

"Linadin," "Ovadin" and "Supradin" are

organo-therapeutic extracts obtained respectively from the spleen, ovaries, and suprarenal capsules. They are said to contain iodine.

"Omal" is the trivial name recently given to trichlorophenol, which is intended to be used as an inhalant in inflammatory conditions of the air-passages.

"Thyrein" is the new name given to the preparation of thyroid gland, introduced by Dr. Baumann, under the name of "Thyreoiodin," and later called "Iodothyrin."

"Dextroform" is a condensation-product of dextrin, with formaldehyd. It is said to yield its formaldehyd more readily than amyloform, since it is freely soluble in water.

"Amyloiodoform," which should not be confounded with amyloform, is a compound of iodine, starch and formaldehyd. It is of a dark blue, and is intended as a succedaneum for iodoform.

"Magnesium tungstate," Mg. WO_4, occurs in the form of coarse powder, consisting of brilliant, colorless crystals, insoluble in water. This substance possesses the same properties as calcium tungstate, and the platino-cyanide compounds and alkaline earths, in respect to the Röntgen rays.

"Nortropinone," according to R. Willstatter, is a product obtained by the further oxidation of an oxidation-product of tropine, tropigenine, by means of chromic acid. It is a ketone, having the formula C_7, H_1, NO, melts between 69° and 70° C., and rapidly abstracts carbonic acid and moisture from the atmosphere. Its alkyl and acetyl derivatives are intended for therapeutic use.

" Dicodeylmethane hydrochlorate " is formed when two molecules of codeine and one molecule of formaldehyd are digested in a hydrochloric-acid solution, and the blue fluorescent solution precipitates being then washed with water. The substance so precipitated has been named dicodeylmethane, and its hydrochlorate is easily soluble in water and in alcohol, and melts at 140° C. It is intended for medicinal use. F.

Tribromphenol Bismuth (Xeroform)

This remedy has recently been applied as a surgical antiseptic by E. Heuss (*Therap. Monatsh.*, Vol. XI, No. 4), who recommends it warmly. He cites among its advantages its non-poisonousness, its stability toward light, its odorlessness and tastelessness, and its entire freedom from irritating effects on the affected mucous membranes. It possesses the properties of both of its constituents, is powerfully antibacterial, antifermentative, and at the same time siccative. In contact with wounds, it facilitates the growth of epithelium and is at the same time anodyne. The author states that he has used it with good results in ulcus molle serpiginosum, panarites, purulent buboes, ulcera cruris, recent, not infiltrated wounds, gonorrhea, burns, suppurating cutaneous diseases, and in affections of the mucous membranes. It is applied like iodoform, being brushed or blown on the previously well-cleaned surface, and then covered by a suitable bandage. In gonorrhea a 1- to 20-per-cent. emulsion is used, preferably in connection with a tribromphenol-bismuth bandage.

Its disinfectant power appears to be lessened by its admixture with fats, therefore its use in ointment is not recommended. A good injection may be made as follows:

Tribromphenol Bismuth........	20 parts
Distilled Water......	200 parts

To be well shaken before using.
(In gonorrhea.)

F.

Chelidonine Phosphate, Sulphate, and Tannate

These salts, while known for some time, are practically new so far as therapeutical employment is concerned. The phosphate and sulphate form colorless crystals, easily soluble in water, whereas the tannate is only soluble in alcohol, and forms a powder containing 53.5 per cent. of the pure alkaloid (*Pharm. Post*, XXX, p. 148).

These salts have yielded excellent results in gastric ulcer, gastric carcinoma, and in enteralgia, in which affections from 0.1 to 0.2 gme. (1½ to 3 grn.) of the sulphate, or 0.2 gme. of the tannate, caused not the slightest symptoms of constipation, drowsiness, stupor, or other by-effect; they are, therefore, considered preferable to opium. F.

Sodium Glycocholate and Sodium Taurocholate

Sodium glycocholate, C_{26} H_{43} NO_6 Na, is a white powder, soluble in water. Sodium taurocholate, C_{26} H_{44} Na NO_7 S. is in the form of fine white needles or white powder, soluble in water. According to the investigations of Stadelmann (*Deutsch. med. Woch.*, Vol. XII, No. 49) these salts are the surest and most active cholagogues in use at present. From the experiments made, it was found that the biliary acids and their salts, in doses of from 5 to 10 gme. per os, given within twelve hours in solution, increased the secretion of gall from 100 to 120 per cent., while at the same time, not the slightest harmful effect was discernible. The greater part of the salts of the biliary acids given was eliminated with the gall by the liver. The experiments also show that these salts are in practice very applicable in cases such as cholelithiasis and perhaps also in diminished secretion of gall due to an amyloid or fatty liver; when icterus in high degree is present, these salts do not appear to be indicated, since the poisonous action of the biliary acids in the circulation may be increased by the administration of salts of biliary acids. In practice, it is recommended to employ the sodium glycocholate, as the tauro-choleate affects the red corpuscles much less favorably. And further, in order to avoid the action exerted upon the remedy by the stomach, it should be given in the form of keratinized pills. F.

Saliformin

Saliformin is the name given to formin (hexamethylenetetramine) salicylate. It forms a white, crystalline powder, easily soluble in water and in alcohol, and possesses a pleasant, acidulous taste. It is reported to be a powerful uric-acid solvent, and to have antiseptic properties. It, therefore, appears to be particularly indicated in cystolithiasis and in bacterial affections of the urinary tract, as well as cystitis accompanied by ammoniacal fermentation of the urine, in place of urotropin, to which it is superior in antiseptic power. It is given in doses of from 1 to 2 gme. (15 to 30 grn.) daily, dissolved in water. F.

Vasol and Iodovasol

"Vasol" is the name given to a new ointment-base similar to vasogen, but particularly designed to be used in combination with iodine, the preparation thus obtained being named "Iodovasol." This is a clear brown fluid, containing 7 per cent. of iodine, and smelling slightly of ammonia. Upon shaking with double its volume of water it forms a fairly permanent emulsion. Iodovasol solidifies in the cold, but becomes liquid again at ordinary room temperature. Upon being warmed, it gives up ammonia freely, and loses its ability to form emulsions; this, however, is regained by saturating the liquid with ammonia gas. Vasol and iodovasol may be kept for a long time, if care be taken to avoid contact with even the slightest traces of moisture. F.

Ferro-Sodium Citroalbuminate

This salt is recommended by Dr. Guiseppi Tarozzi (*Pharm. Ztg.*, XLII, p 45) as a readily absorbable hematinic, in doses of 1.5 gme. a day for adults, and 0.25 to 0.5 gme. for children, taken in aromatic syrup or in soup. It contains 30 per cent. of ferric oxide. The writer also advises that the use of acids or foods containing sulphur be avoided, since these substances transform the remedy into an insoluble substance that passes through the digestive tract unchanged. In certain cases of anemia the remedy may even be given hypodermatically, without any fear of local irritation, as it has a constitution analagous to that of blood and does not cause embolism. The salt is very hygroscopic, and readily soluble in water. F.

Bismuth Sulphocarbolate and Bismuth Oxybromide

Hugh Woods in the *Brit. Med. Jour.* states that he has prepared and used, in a considerable number of cases, the sulphocarbolate and the oxybromide of bismuth, and found them to have special advantages in certain cases over other compounds of bismuth.

Bismuth sulphocarbolate is a purple-red powder, and has been used very successfully in cases of fever with foul-coated tongue and offensive breath. It is said to be excellently suited for cases of irritative dyspepsia, with fermentative changes in the food, deranging digestion; and a trial of it is strongly recommended in typhoid fever and generally as an intestinal disinfectant.

Bismuth oxybromide is an impalpable, very faintly yellow powder, that forms a very satisfactory emulsion with tragacanth mucilage, and has advantages over other bismuth compounds for administration in mixtures. It has been found very serviceable in cases of dyspepsia associated with nervous derangements, in hysterical conditions combined with gastric pain and vomiting, etc.

Both these salts have been known for some time, but they have not been used therapeutically to any extent.

Pseudohyoscyamine

Pseudohyoscyamine, $C_{17} H_{23} NO_3$, occurs as yellowish needles, difficultly soluble in water and in ether, and easily so in alcohol and in chloroform. It melts at 133 to 134° C. This alkaloid, besides hyoscyamine and hyoscine, is obtained from the leaves of Duboisia myoporoides. According to E. Buonarroti (*Arch. Ital. de Biol.*) it possesses mydriatic properties. Subcutaneously employed, it does not accelerate the heart's action, even in large doses; on the contrary, it retards it, and paralyzes the pneumo-gastric nerve. It regulates the secretion of saliva without causing any of the disturbances induced by atropine. Pseudohyoscyamine produces no symptoms of poisoning even when given in large doses. It cannot replace duboisine in hystero-epileptic convulsions. F

REVIEWS

Report of the Health Officer to the Commissioner of the District of Columbia for the year ending June 30, 1895. Washington: Government Printing Office.. 1895.

We are pleased to receive this somewhat delayed report from Dr. Wm. C. Woodward, the Health Officer of the District of Columbia. It contains a large fund of most interesting and valuable information that should be in the hands of many more medical men than are likely to see it unless their attention is particularly directed to it. Public documents like this are apt to be neglected by the profession under the impression that because they cost nothing that is all they are worth. Very often it is difficult for those who would fully appreciate such works to get them while people who do not care a straw about them are liberally supplied. When they are first issued from the government press they can as a rule be had for the asking. The volume before us shows a vast amount of careful work in its compiled statistics, its maps of Washington showing where all the cases of certain forms of disease were located, its tables of epidemics of contagious and other diseases that have appeared at different times and been traced to milk as a cause, its mortality-charts and its compilation of laws bearing on medical matters for the District of Columbia. Reference is made to the work of the editor of the *British Medical Journal* in collecting evidence of milk epidemics in Great Britain. Here we learn that the Health Officers of the District have found more such epidemics in their small region than were found in England. The seriousness of this fact is not, we believe, fully realized by the people of the United States. The general public should be aroused from their ignorance of this matter and made to understand its full significance. The following interesting facts are taken from page 333: "According to the United States Census of 1890 we have 16,511,950 milch-cows, with an average annual production of 5,209,125,567 gallons of milk, 1,024,233,468 pounds of butter, and 18,726,818 pounds of cheese. The production of milk for 1890 in Great Britain, according to the Royal Statistical Society of London, June, 1892, was 1,417,830,000 gallons for that year. According to Eisbein the average annual consumption per capita is 126 quarts or 272 pounds of milk, 33 pounds of butter, and 16 pounds of cheese, requiring about 32 cows for 1,000 inhabitants to supply these quantities. Dr. J. C. Morrison calculates that in 15 of our American cities, with a total population of 5,000,000 the annual consumption of milk amounts to 400,000,000 quarts, costing the consumers $32,000,000, of which about $20,000,000 go to the producer, while the other $12,000,000 are absorbed by the middlemen and retailers."

Mr. Wm. B. Saunders, medical publisher, 925 Walnut street, Philadelphia, Pa., announces the following books as in preparation for early publication:

"American Text-Book of Genito-Urinary and Skin Diseases."—Edited by L. Bolton Bangs, M.D., late Professor of Genito-Urinary and Venereal Diseases, New York Post-Graduate Medical School and Hospital, and William A. Hardaway, M.D., Professor of Diseases of the Skin, Missouri Medical College.

"American Text-Book of Diseases of the Eye, Ear, Nose, and Throat."—Edited by G. E. de Schweinitz, M.D., Professor of Ophthalmology, Jefferson Medical College, and B. Alexander Randall, M.D., Professor of Diseases of the Ear, University of Pennsylvania, etc.

"Macdonald's Surgical Diagnosis and Treatment."—By J. W. Macdonald, M.D., Professor of Practice of Surgery and of Clinical Surgery, Minneapolis College of Physicians and Surgeons.

"Anders' Theory and Practice of Medicine."—A text-book, by James M. Anders, M.D., Ph.D., LL.D., Professor of Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia.

"Senn's Genito-Urinary Tuberculosis of the Genito-Urinary Apparatus, Male and Female."—By Nicholas Senn, M.D., Ph.D., LL.D., Professor of the Practice of Surgery and of Clinical Surgery, Rush Medical College, Chicago.

"Penrose's Gynecology."—A Text-Book. By Charles B. Penrose, M.D., Professor of Gynecology, University of Pennsylvania. Price, $3.50. Ready in August.

"Hirst's Obstetrics"—A Text-Book. By Barton Cook Hirst, M.D., Professor of Obstetrics, University of Pennsylvania.

"Moore's Orthopedic Surgery."—By James E. Moore, M.D., Professor of Orthopedics and Adjunct Professor of Clinical Surgery, University of Minnesota, College of Medicine and Surgery.

"Heisler's Embryology"—A Text-Book of Embryology. By John C. Heisler, M.D., Prosector to Professor of Anatomy, Medical Department of University of Pennsylvania.

"Mallory and Wright's Pathological Technique."—By Frank B. Mallory, A.M., M.D., Assistant Professor of Pathology, Harvard Medical School; Assistant Pathologist to the Boston City Hospital; and James H. Wright, A.M., M.D., Instructor in Pathology, Harvard Medical School; Pathologist to the Massachusetts General Hospital.

"Sutton and Giles' Diseases of Women"—A New Volume in Saunders' Air Series. By J. Bland Sutton, F.R.C.S., Assist. Surgeon to Middlesex and to Chelsea Hospital, London; and Arthur E. Giles, M.D., B.Sc., Lond., F.R.C.S., Edin., Assistant Surgeon, Chelsea Hospital, London.

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CORRESPONDENCE

The Study of Medicinal Plants.

To the Editor of the A. M.-S. BULLETIN:

The Sub-Commission of the Pan-American Medical Congress appointed to study the medicinal plants of the United States has entered into an association with the Smithsonian Institution for that purpose. The attention of your readers is called to the respective circulars issued by these organizations, which are printed below.

Smithsonian Institution, Washington, D. C.

Dear Sir—The Smithsonian Institution has undertaken to bring together all possible material bearing on the medicinal uses of plants in the United States. Arrangements have been made with a body representing the Pan-American Medical Congress, the Sub-Commission on Medicinal Flora of the United States, to elaborate a report on this subject, and the material when received will be turned over to them for investigation.

The accompanying detailed instructions relative to specimens and notes have been prepared by the Sub-Commission.

All packages and correspondence should be addressed to the Smithsonian Institution, Washington, D. C., and marked on the outside "Medicinal Plants for the U. S. National Museum."

Franks which will carry specimens, when of suitable size, together with descriptions and notes, free of postage through the mails, will be forwarded upon application. Should an object be too large for transmission by mail, the sender is requested, before shipping it, to notify the Institution, in order that a proper authorization for its shipment may be made out. Respectfully,

(Signed) S. P. LANGLEY,
Secretary.

INSTRUCTIONS RELATIVE TO MEDICINAL PLANTS.

The Pan-American Medical Congress, at its meeting held in the City of Mexico in November, 1896, took steps to institute a systematic study of the American medicinal flora, through the medium of a General Commission and of special sub-commissions, the latter to be organized in the several countries. The Sub-Commission for the United States has been formed, and consists of Dr. Valery Havard, U. S. A., Chairman; Mr. Frederick V. Coville, Botanist of the U. S. Department of Agriculture; Dr. C. F. Millspaugh, Curator of the Botanical Department of the Field Columbian Museum, Chicago; Dr. Charles Mohr, State Botanist of Alabama; Dr. W. P. Wilson, Director of the Philadelphia Commercial Museums; and Prof. H. H. Rusby, of the New York College of Pharmacy. This Sub-Commission solicits information concerning the medicinal plants of the United States from every one in a position to accord it. The principal points of study are as follows:

1. Local names.
2. Local uses, together with historical facts.
3. Geographical distribution and degree of abundance in the wild state.
4. Is the plant collected for market, and, if so,
    (a) At what season of the year?
    (b) To how great an extent?
    (c) How prepared for the market?
    (d) What is the effect of such collection upon the wild supply?
    (e) What price does it bring?
    (f) Is the industry profitable?
5. Is the plant, or has it ever been, cultivated, and, if so, give all information on the subject, particularly as to whether such supplies are of superior quality, and whether the industry has proved profitable?
6. If not cultivated, present facts concerning the life history of the plant which might aid in determining methods of cultivation.
7. Is the drug subjected to substitution or adulteration, and, if so, give information as to the plants used for this purpose?

While it is not expected that many persons will be able to contribute information on all these points concerning any plant, it is hoped that a large number of persons will be willing to communicate such partial knowledge as they possess.

It is not the important or standard drugs alone concerning which information is sought. The Sub-Commission desires to compile a complete list of the plants which have been used medicinally, however trivial such use may be. It also desires to collect all obtainable information, historical, scientific, and economic, concerning our native and naturalized plants of this class, and to that end invites the co-operation of all persons interested. Poisonous plants of all kinds come within the scope of our inquiry, whether producing dangerous symptoms in man, or simply skin-inflammation, or, as "loco-weeds," deleterious to horses, cattle and sheep. In this respect, the general reputation of a plant is not so much desired as the particulars of cases of poisoning actually seen or heard from reliable observers. It is believed that much interesting knowledge can be obtained from Indians, Mexicans, and half-breeds, and that, consequently, Indian agencies and reservations are particularly favorable fields for our investigation. Such knowledge will be most acceptable when based upon known facts or experiments.

In order to assist in the study of the habits, properties, and uses of medicinal plants, the Sub-Commission undertakes to furnish the name of any plant-specimen received, together with any desired information available.

Owing to the diversity in the common names of many plants, it will be necessary for reports, when not furnished by botanists or others qualified to state the botanical names with certainty, to accompany the same with some specimen of the plant sufficient for its identification. While the Sub-Commission will endeavor to determine the plant from any portion of it which may be sent, it should be appreciated that the labor of identification is very greatly decreased and its usefulness increased by the possession of complete material, that is, leaf, flower, and fruit; and, in the case of small plants, the underground portion also. It is best to dry such specimens thoroughly, in a flat condition under pressure, before mailing. While any convenient means for accomplishing this result may be employed, the following procedure is recommended: Select a flowering or fruiting branch, as the case may be, which, when pressed, shall not exceed 16 inches in length by 10 inches in width. If the plant be a herb two or three feet high, it may be doubled to bring it within these measurements. If it possess root leaves, some of these should be included. Lay the specimen flat in a fold of newspaper and place this in a pile of newspapers, carpet felting, or some other form of paper which readily absorbs moisture, and place the pile in a dry place under a pressure of about 20 to 30 pounds, sufficient to keep the leaves from wrinkling as they dry. If a number of specimens are pressed at the same time, each is to be separated from the others by three or four folded newspapers or an equivalent in other kinds of paper. In twelve to twenty-four hours these newspapers will be found saturated with the absorbed moisture, and the fold containing the specimen should be transferred to dry ones. This change should be repeated for from two to five days, according to the state of the weather, the place where the drying is done, the fleshiness of the specimens, etc. The best way to secure the required pressure is by means of a pair of strong straps, though weights will do. The best place for drying is beside a hot kitchen range. When dry the specimens should be mailed between cardboards or some other light but stiff materials which will not bend in transit.

It is a most important matter that the name and address of the sender should be attached to the package, and that the specimens, if more than one, should be numbered, the sender retaining also specimens bearing the same number, to facilitate any correspondence which may follow. The Sub-Commission requests that, so far as practicable, all plants sent be represented by at least four specimens.

(Signed) H. H. RUSBY, M.D.,

Chairman of the General Commission,
New York College of Pharmacy.

Valery Havard, M. D., Chairman of the Sub-Commission, Fort Slocum, Davids Island, New York.

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EDITOR'S NOTES

The Woman's Medical Journal, of Toledo, O., is one among our many welcome exchanges. Its contents are always spicy and brilliant. The June number was a particularly fine one, and contained a large amount of useful and interesting information. Its entire management is in the hands of well-educated ladies who know just what to select and write for the good of lady physicians. Its success in the past has been phenomenal, and the BULLETIN hopes that it will not only continue to grow as rapidly in the future as in the past, but that it will do greater things than it has ever yet done in promoting the cause to which it is devoted.

Every physician in Connecticut has now to report all cases of contagious diseases or pay a fine of from $5 to $25. Every person who has kept track of the advancement of medical science during the past few years can see the necessity of some such law as this in every section of the country. The public good demands it. As it benefits the public and not the doctor justice decides that there should be adequate compensation for this service. The public should have no more right to take a man's time and service without remuneration than a private citizen. To force a doctor to give his time in thus doing public work and not paying him for the same is simply robbery. To fine him for refusing to do such work without compensation is simply barbarous.

The next meeting of the Mississippi Valley Medical Association will be held in Louisville on Oct. 5, 6, 7 and 8, 1897.

All railroads will offer reduced rates.

The president, Dr. Thos. Hunt Stucky, and the Chairman of the Committee of Arrangements, Dr. H. Horace Grant, promise that the meeting will be the most successful in the history of the Association, and this promise is warranted by the well-known hospitality of Louisville and Kentucky doctors.

Titles of papers should be sent to the secretary, Dr. H. W. Loeb, 3559 Olive street, St. Louis.

A committee of the Richmond Academy of Medicine and Surgery lately sent a communication to the Hon. Thomas S. Martin, their representative in the United States Senate, requesting him to oppose the antivivisection Senate bill No. 1063, and he has forwarded to them the following reply:

> "UNITED STATES SENATE,
> "Washington, D. C., July 3, 1894.
>
> "Dr. John S. Wellford, Richmond, Va.:
>
> "Dear Doctor—The communication from the Richmond Academy of Medicine and Surgery, signed by yourself and others, protesting against the passage of Senate Bill No. 1063, entitled "A bill for the further prevention of cruelty to animals in the District of Columbia," came duly to hand, as did your letter of the 2d instant. I beg to assure you, and through you to assure your professional brethren in the city of Richmond, that I concur fully in the views you express in reference to this bill. I will use every effort in my power to prevent its passage. There is no danger whatever of its passing at the present special session. There will, of course, be a strong effort made next winter to pass it. I will keep close watch on the matter, and if its passage can be prevented by me you may rest assured it will not pass.
>
> "Yours very truly,
> "THOMAS S. MARTIN."

This manly, outspoken, honestly expressed statement is sure to win for Senator Martin a host of friends among the very best men of his own and every other State in the Union. If other senators would follow his good example we should soon hear the last of the impractical and perniciously ignorant zoophilists. Again, we would urge our readers to petition their senators to oppose this vicious bill. We want more of them as fully awake to its evil character as is Senator Martin. Our esteemed contemporary, the *Medical Register*, to which we are indebted for the above information, wisely suggests that the antivivisectionists could not do the world a greater favor than to live logically up to what they preach, refuse to use any means that has come to us by vivisection, have no dealings with doctors that use discoveries that are due to vivisection, and thus give natural selection a chance to wipe them from the face of the earth.

Some of the descriptions of osteopathy given by the press as contributed by osteopathic physicians are very funny. The following is from an Iowa paper, and summarizes the belief of these eccentrics quite fairly:

> "Osteopathy is a method of treating disease discovered by Dr. A. T. Still of Kirksville, Mo. Osteopathy likens the human body to a machine, and when its parts are properly adjusted health results; but when any of these parts are at variance, causing obstructions to the vital forces, disease is the result. Osteopathy removes these obstructions and allows nature to build up the diseased tissues."

The way our bright contemporary, the *American Journal of Surgery and Gynecology,* is going for hospital and dispensary abuse is interesting. In large, extra-heavy headlines Dr. Lanphear begins an editorial as follows: "Frightful Hospital and Dispensary Abuse in St. Louis. Runners Drum Up Business for Prominent Men; Robbing the Doctors of the Country as Well as the City. Nearly 400 Physicians of St. Louis are Said to be Practically Starving." We wish him success in his crusade, and hope that the movement to which he refers as having been started by the *Journal* will do as he says it promises, and "annihilate them speedily." A committee of the Medical Society blames the colleges for the demoralized condition of things medical in St. Louis, calls them "the chief malefactors," and says that "unfair and untruthful inducements, expressed or implied, are held out to the unsophisticated, unsuspecting, unprepared student to enter an overcrowded profession, to which are added year by year ever-increasing, badly equipped graduates to make the competition more ruinous and demoralizing." Dr. Lanphear quotes the report of this committee with approval, but thinks it strange that they did not discuss the remedy that he approves of. He says that this remedy is a very effective one, and promises to state it in detail to his readers in his next issue.

PUBLISHERS' DEPARTMENT

PECK'S EAR DRUMS

The following is one of many similar letters received by the Hiscox Co., 849 Broadway, New York:

Office Masonic Cemetery,
San Francisco, Cal.

F. Hiscox, Esq.

Dear Sir—Your wonderful instruments have been of great assistance to me. When I first began to use them, wagons on the streets made such a noise that I thought of removing drums while downtown. I hear ordinary conversations, and do not make the blunders in the office that were of daily occurrence before their use. I have not worn your drums for two years, because they have done as you claim—cured my deafness.

Wm. J. Moses,
Supt.

Oct. 30, 1894.

TRIKRESOL

In the selection of antitoxin physicians prefer to discriminate in favor of the product that is preserved with a proper antiseptic. Carbolic acid, camphor, trikresol, etc., are used for this purpose. Experience has shown that carbolic acid is not adapted to all cases because it is too toxic and irritant. In small proportions it is a feeble antiseptic. Camphor is insoluble and very feebly antiseptic. On the other hand the strong odor prevents the detection of decomposition of the serum. Mulford's Concentrated Antitoxin is preserved with trikresol in the proportion of one-half of one per cent. which experience has shown, perfectly preserves the antitoxin under all conditions. Trikresol possesses the advantage of being a perfect preservative in very small proportions, while it is but feebly toxic even in very large proportions.

RESINOL CHEMICAL CO.—PRIZES

The articles received by the Resinol Chemical Company for competition under their recent prize offer, were turned over to a committee of prominent physicians, consisting of T. C. Gilchrist, M. D., Associate Professor Dermatology, Johns Hopkins University; Wm. F. Smith, M. D., Professor Dermatology, College of Physicians and Surgeons; and Edwin Geer, M. D., Surgeon Maryland Naval Reserves. The committee awarded prizes as follows:

First prize, $100, to Dr. Walter P. Ellis, Livermore, Ky.

Second prize, $60, to Dr. J. Hobart Egbert, Holyoke, Mass.

Third prize, $75, to Dr. J. M. Rader, St Louis, Mo.

Fourth prize, $50, to Dr. E. A. Edlen, Moline, Ill.

Fifth prize, $40, to Dr. Ed. C. Hill, Denver, Colo.

Sixth prize, $25, to Dr. J. Grant Coyle, New York, N. Y. The names of the contestants were withheld from the committee, in order that its decisions might be entirely unprejudiced.

THE BALL NOZZLE SYRINGE

The importance of a thorough, regular, and frequent douche for the vagina has long been recognized. A vaginal syringe throwing a straight, piercing stream is out of the question, because of the danger of forcing water into the orifice of the uterus, which often produces uterine colic. Vaginal syringes, perforated at the sides and below the top cannot reach the parts most important to be washed. The peculiar construction of the Ball-Nozzle Syringe overcomes this difficulty. It diffuses an even, gentle, conical film of water from its mouth which reaches every part of the vagina, but cannot enter the uterine cavity, and removes from the mouth and neck of the womb and the cul-de-sac every particle of foreign matter. Disease and suffering are thus avoided.

This result can be obtained with no other syringe. It is sold by druggists generally. Full information and particulars can be obtained from the Columbian Ball-Nozzle Co., 133 William St., New York.

ULCERATIVE CONDITIONS .

Dr. R. H. Baylor, Stewart, Tenn., in reporting his experience with Sennine as an antiseptic and germicide dressing as well as stimulating healthy granulations on an ulcerative surface, says, "There is nothing further desired in the antiseptic line," and he has accomplished pre-eminently satisfactory results in ulcerative conditions where everything else had failed. Sennine is easily applied—a clean dressing and permanent relief in a short ime.

NEWS

The epidemic of yellow fever now raging in Cuba is decreasing rapidly.

A leper has been found living in one of the most desirable residential sections of Jersey City.

Dr. H. S. Bingham has been re-elected Grand Medical Referee of the Canadian Order of Odd Fellows.

Dr. C. J. Bartlett, of New Haven, Conn., has been appointed Professor of Bacteriology of Yale Medical College.

The Utica, N. Y., Board of Health has adopted formaldehyd as a substitute for sulphur for purposes of disinfection.

Dr. P. Jasniski was arrested in Nanticoke, Pa., charged with failing to report a case of contagious disease as required by law.

The State Board of Medical Registration and Examination of Ohio is waging a vigorous campaign against fake medical colleges.

The Governor of Indiana has decided to let "no consumptive die in the Indiana prison at Michigan City, if it is possible to pardon them."

The Kentucky State Board of Health are prosecuting all illegal practitioners of medicine. The osteopaths are being looked after also.

An International Congress for the Repression of the Abuse of Alcoholic Drinks will be held in Brussels, from August 30 to September 3, 1897.

The State Board of Medical Examination and Registration of Indiana, recently issued the first licenses under the new law. They numbered over 3,200.

Chicago is about to have another hospital which will be known as the Holy Family Hospital. It is to be erected on West Division street, near Paulina street.

Dr. Wm. H. Shipps has been elected by the State Medical Society of New Jersey, as a delegate to the American Medical Association at Denver a year hence.

Dr. W. R. Gowers, the well-known English neurologist, has been knighted in recognition of his investigation of the nervous system and his success as a teacher.

Chicago physicians object to the use of cocaine on firemen's eyes as practiced in New York. They claim that cocaine thus used is apt to give rise to the habitual use of the drug.

The Chicago *Times* has recently tried to cast ridicule upon the New York Board of Health, with respect to the health commissioner's figures of the population of New York and the death-rate.

Dr. Patrio Castigno, from the University of Naples was recently censured by Coroner Asbridge, of Philadelphia, for practicing medicine without a certificate from the State Board of Medical Examiners.

The Medical Society of New Jersey, at its late meeting in Atlantic City, elected Dr. D. C. English, of New Brunswick as President. The next annual meeting will be held at Asbury Park on June 28, 29 and 30, 1898.

A statue of Charcot is being executed by M. Falguiere, showing the great French savant attired in his professor's robes, standing with his hand laid on the head of a patient, who is apparently being hypnotized.

The Pueblo (Col.) County Medical Society declares that it will charge $50 for holding a post-mortem examination on a body, and the board of county commissioners declare that they will henceforth only allow $25.

The osteopathists, of Fargo, N. D., are at present having war among themselves. Two of their leading members cannot agree as to who should get the largest share of the business done. One of them is Dr. Still the founder of the system.

The Sanitary Committee of the St. Louis City Council have reported unfavorably the provision, recommended by Health Commissioner Starkloff, for the protection of the public from unsanitary tenements, lodgings and food-adulterations.

A medical diploma-mill has been recently unearthed at Chicago. The false concern called itself the "Independent Medical College," and its head, one J. Armstrong, "M.D.," issued a diploma on payment of sums ranging from $75 to $200.

Chewing-gum has lately been held responsible for the spread of diphtheria among five members of one family. The child first attacked contracted the disease in the public schools and while suffering from the earlier symptoms distributed among her little brothers and sisters portion of a stick of chewing-gum which she had in her mouth.

The St. Louis Medical Society is about to erect a seven-story structure to cost $340,000, of which $290,000 has already been arranged for. The remainder, $50,000, is to be raised by the sale of preferred stock among the physicians. The ground floor is to be used for stores, cafes, etc., the second, third and fourth floors for physicians' offices, the fifth and sixth floors for bachelors' apartments, and the seventh floor for a lodge hall and the rooms and library of the society.

The Minnesota Eclectics have sent the following to Governor Stephens:

"Resolved, By the National Eclectic Medical Association, in annual session assembled at Lake Minnetonka, Minn., that we send greeting, appreciating and commending your position regarding reform medicine. We would hereby respectfully ask for equal representation upon the State Board of Health and the Superintendency of the Insane Asylum at Nevada, indorsing the name of Dr. J. T. McClanahan of Boonville, who has been recommended by the Eclectic Medical Society of Missouri for the latter position.

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EDITORIAL

A LESSON THE PUBLIC NEEDS

ONE of the most serious obstructions to wise medical legislation is the false notion entertained by the public that regular practice is sectarian and exclusive. Could they be taught to appreciate the honest fact that the reverse is true, and that our constant fight is against exclusiveness and sectarianism, far more legislators would favor our efforts at advancing medical legislation. The public has been taught by sectarians to look upon us as a creed-bound body. Homeopaths, eclectics, osteopaths, hydropaths, and others have no earthly reason for separate existence, except as they themselves claim to be distinct sects with distinct creeds. To delude the public into believing that we are the same in this particular, one of these bodies deliberately applied the lying title "Allopath" to us, and others coming after have repeated it, until the public now know no other title for us.

What wonder, then, that they think us as exclusive and as intolerant as the rest? Indeed, they often have a notion that we are by far more intolerant and more exclusive than any of the others. Viewed from the standpoint which they have thus been forced to occupy, no one can blame them for this conclusion. All our efforts in behalf of common honesty have been interpreted as efforts at sustaining a medical trust. They do not and cannot see that we simply fight to compel sectarians to acquire an education equal to our own and tell the truth about themselves and their methods. In each of these contentions we simply seek to protect the public against fraud. Honesty is no match against lying and humbuggery where the public possesses no way of telling the honest man from the pretender. We are very much to blame for the false light in which we stand before the public in that we have made little or no direct effort at educating them to a true knowledge of the facts. The matter has been so self-evident to us that we have assumed that everybody should see it as we do.

It is time that something was done to let the public know that we have no exclusive method of practice and that a man can hold full fellowship with us even though he practises homeopathy with one patient, hydropathy with another, eclecticism with another, osteopathy with another, and allopathy with another. It is only when a man is ignorant, pretends to cure every disease that flesh is heir to with one specific method or formula, or claims impossible results that we call him irregular. An allopathic physician, if such existed, would be as irregular to us as a homeopathic one. His sectarianism would make him irregular. The badge of regularity exists solely in holding ones' self free to practice any system that in one's best judgment will cure or benefit the patient and in being honest and truthful. To hold to any one exclusive system is so manifestly quackish that honesty demands repudiation.

The regular practitioners of the world aim at being the builders and architects of the temple of medical truth. The work of the erection of this temple is one of slow evolution. Every principle of medical architecture will be embraced in it. The homeopath comes along with a principle that he insists must be used throughout the entire edifice. If we reckon his item to be a column or an architrave, then he holds that the whole truth of medicine is embodied in one or the other of these. The osteopath comes along with his exclusive dogma that we may liken to a moulding, and he insists that the whole building should be erected of mouldings and nothing but mouldings. The eclectic declares that the whole principles of architecture are embraced in the capital and that the whole edifice should be composed of a composite of various kinds of capitals. Because the regulars insist upon freedom to choose in accordance with every known principle of architecture all the rest have insisted upon starting schools of their own. Of what earthly use are these divisions that they have made and are making? Why could not Hahnemann and his followers have remained in the ranks of regular practitioners, and if they wished pursued their methods there? At no time has any new method of treatment been forbidden by regulars. Every member is and always has been at liberty to treat his patients as his knowledge and conscience dictates. Only when he violates the principles of manhood and honor is he expelled from fellowship. When for the sake of gain he pretends to cure every form of disease by a method that in the hands of all others only cures or slightly benefits a few does he come under the ban of censure. Every grant of a charter to a school or college to teach an exclusive dogma is but a licensing of fraud. To license a set of men to start a college who themselves have no adequate education is also to license fraud. The sole, the only ground upon which sectarians have been fought has been one or both of these. Never at any time has any person been driven from our ranks for introducing a new drug, new method of treatment, or new instrument for treatment. Every type of medical heresy or theory has been duly tried by us. Fads and nonsensical notions by the wholesale have been aired among us. We have ransacked savage, barbarous, and civilized countries to learn of and try their methods of treatment. Every remedy and every plan, ancient and modern, that the ingenuity of man has discovered or devised has been tried by us, and where not persisted in it is because other remedies or other plans have proven better on actual trial. Our sole test of value in any and every form of treatment has been its survival because of greatest fitness on actual trial. We are willing to use remedies that have come from homeopaths, eclectics, Indian doctors, horse-doctors, African medicine-men, old women, hydropaths, osteopaths, and all conceivable sources. We have never asked the question as to whether any good thing could come out of Nazareth. Why, then, do there exist separate sectarian schools? These sectarians should answer why; we can only guess at their motives. They seem to us to do it merely that they may be free to delude the public into believing that there is only one principle of treatment and that they have it. They have led the public to think that we fight their treatment, when in fact this is a deliberate misrepresentation of the facts. We sometimes use the same remedies as they do, and never surreptitiously. Some of them continually use the remedies that are opposed to their own principles, but impliedly or openly deny it. There is nothing in our way to keep us from honestly using any remedy that any school in the world uses, but sectarians have their creed in the way of their doing the same. That they trample on their creeds while pretending to the public that they are following them is no secret. The public should be taught that it is this trickery, fraud, and misrepresentation that we wage war against, and not the using or refraining to use any kind of drug or remedy.

DOCTORS OF OSTEOPATHY

THE latest and most absurd addition to medical sectarianism hails from Missouri. The founder is a former medical man, A. J. Still. He claims to have a wonderful discovery in the form of "a new science" of medicine. Many years ago, we are told, he had a daughter who was afflicted with spinal meningitis, and whom the most heroic efforts of himself and other able physicians were unable to save. This set him to brooding over his loss, and out of this sorrow he finally evolved the theory that the proper treatment of disease is not one of drugs, but of manipulations of nerves, muscles, and bones. By a process of inner cogitation he perfected what he calls his "new science." For twenty years he struggled along in poverty, no one believing in him until about four years ago, when by a dexterous turn in advertising he found himself famous. Already he is said to be worth $200,000, and has more patients and students than he can attend to. The State of Missouri gave him a charter to start a college where the degree of D. O. (Doctor of Osteopathy) is conferred. Other charters have been obtained from several States, and an organized effort has been made to get exemption for osteopathic students from the examinations of qualification other practioners have to undergo. They seek such exemption on the plea that they administer no medicines and use no knives, therefore endanger no lives. Ingenious as this plea is, it did not work as well as they expected it to in Illinois. It passed current with the Legislature and was accepted as gospel by the State Senate, but the Governor, though expressing sympathy with their "science," vetoed their bill on the grounds of its unconstitutionality. Governor Tanner rightly held that it was a case of class legislation. In his veto message he said: "If by my veto I was subjecting the adherents of the new system to any undue hardships or depriving them of any rights enjoyed by others in the laudable business of healing the afflicted, I would hesitate, but I am not." If the Osteopathy bill had passed unvetoed it would have destroyed the usefulness of the State Board of Health and demoralized medical practice in Illinois. The strength of osteopathy at present seems to exist in its political pull. A number of influential politicians have taken it up and are seeking to boom it. In Ohio they have a strong advocate in Senator Foraker, by whose personal influence the system was legalized in that State. The Senator claims that his son Arthur was cured of some form of chronic illness by osteopathic treatment. In an interview with Miss Ada M. Peck, D. O., of Toledo, Ohio, by a reporter of the Toledo *Blade*, she tells the world that "In the case of Arthur Foraker the cure was easy, as he was very young and his bones were soft. The manipulation in his case was the intercostal nerve through the ribs, and the pneumogastric nerve in the neck." The reporter asked Miss Peck to tell him what osteopathy is, and this is her reply: "Osteopathy is a science based upon anatomy and physiology. Armed with a comprehensive knowledge of the human body, the osteopath is enabled to trace disease to some abnormal position of bone, contraction of muscles, etc., obstructing the nerve-force, or the circulation of blood, or other vital forces of the body. By his thorough knowledge of the anatomical structure of the body the osteopath, by manipulation, adjusts the abnormality, thus establishing nerve-force and circulation." While to an educated medical man this theory is simply ridiculous jargon, to the layman it passes current for wisdom. They have no means at their disposal to test its merits or pass upon its truth. For us to denounce such drivel is simply to make the average man of business think that we are envious or prejudiced. How, then, can we direct the minds of men so influential as Senator Foraker into the paths of medical common sense? It certainly is not lack of ordinary intelligence that has carried him into such a camp. He is as shrewd a man, outside of medical matters, as there is in the United States. He and others like him should be taught that in the ranks of regular medical practice his son could have received the same treatment as was given by the osteopaths. He should be shown that Still and his followers do nothing that has not been done for centuries by regulars, masseurs, spiritualists, healers, bonesetters and others. He should be taught that the only new thing about the new (?) system he has espoused is its lies and dangers. Men like him should know enough about the doctrine of probabilities to perceive that the cure of his son by these people is no evidence of the universal merit of their system. Shyster lawyers do sometimes win the cases that they try while the most skillful lawyers sometimes fail. What would Senator Foraker think of a client, who, because a good lawyer lost a case for him and a bad lawyer on appeal won it, should ever after prefer the poor and disreputable lawyers to the good ones, and use his influence to get everybody to oppose the latter? Medicine is as uncertain in many directions as law, but wise men generally prefer to trust themselves in the hands of those having the highest recommendations rather than in those of men with no reputation. In every department of life the men equipped with the most thorough education in their line, other things being equal, are the safest men to trust. It is a plain mark of eccentricity for any one to keep continually choosing the irregular hangers-on in any line or profession. Senator Foraker's own strength is in his regularity and his honorable adherence to his party. If Still had stuck to his manipulations of bones, nerves and muscles within the ranks of the regulars no one would ever have interfered with him. He could even have made a specialty of his treatment and remained regular. He could not, however, make manifestly false claims therefor, nor have been able to advertise himself by crying out that the "allopaths" were persecuting him. The cry of "allopathic persecution" is most of the stock in trade of nearly every sectarian. They always take particular pains to hide the true nature of the so-called persecution. It would hardly do for them to confess that all the persecution they get consists in the efforts of Boards of Health and medical societies to compel them to be honest and tell the public the plain truth about themselves, or at enforcing laws against dangerous ignorance.

THE CALL FOR MEDICAL FREEDOM

THERE exists in the city of Boston an organization known as the American Health Club, the avowed object of which is to bring back to the people of this country their freedom to hire whom ever they like to treat their ailments. A few months ago they had a bill introduced in Congress and others of the same kind into the legislatures of several States providing that "all citizens of sound mind, who are not under conviction for crime, shall be, and they are, entitled to the right and privilege to select their own physicians, to employ the same, and to compensate them for their services." Most people are of the opinion that they now possess all these rights and never have been without them. We know of nothing to hinder members of this club or anyone else from selecting their own physicians. Stupid as is the demand of this club, there seem to be a great many people in different parts of the United States who believe or pretend to believe that they are hindered from choosing their own physician. Some of the thoughtless among them probably actually believe that their liberties are so restricted, but the better-informed among them know that what they really want is freedom for the criminally inclined to fleece the helpless and ignorant. The aim of the American Health Club is to break down all legislation against medical dishonesty. They want to permit charlatans and rascals to rob and kill the sick and suffering for the sake of their money. Existing medical legislation is nowhere of a restrictive character, and nowhere fosters a class. It only demands certain protective regulations for the safety of the people that any one who wishes can comply with. There is not in the whole country a single man or woman of sound mind and good memory that could not if they would get the right to practice medicine. Those who want the right without properly fitting themselves to fill it are asking for the privilege of jeopardizing the health and lives of others for their personal gain. No one is fit to pass as a healer who does not know what ails the patient he pretends to treat. As the diagnosis of disease requires a large fund of medical knowledge, even faith-healers are dangerous without it. What harm would it do Christian Scientists if they had a good medical education? Would anyone of the irregular practitioners be injured by such an education? Would it hurt any of them to be able to tell a case of hernia from one of obstructed bowels? Would it hurt them to know the difference between a case of poisoning and of ordinary disease? When nothing more is asked of them than is demanded of others, why object? Are they so much the superiors of educated medical men that they must have special exemptions and privileges extended to them? Surely no one will be so bold as to declare that an education would harm any of them. After they get the necessary education, no one will hinder their practicing as they please. In the ranks of the regulars, if they stick to telling the truth, they can practice as they please. The whole warfare of the profession against advertising is a warfare against lying to the public for the purpose of cheating them.

The more ignorant the medical pretender happens to be the more unscrupulous he is in his claims. When his personality is hidden behind an advertisement he is more readily believed and he has the better chance to deceive. It is the men without knowledge and without conscience, that the American Health Club is trying to champion, and the fact that some of them are good advertisers gives them favor in the eyes of some newspaper-men. The members of this club should petition our legislators to let them hire whom they please to conduct their law-cases through the courts, whom they please to act as pilots, engineers, army officers, etc., and whom they please to do all other work where ignorance is a menace to public safety. Why do they not clamor for whom they please to act as judges in our courts when they have cases to try?

AMONG THE EDITORS

THE NEW DOCTOR

The new doctor is well-known in every city. He is a hustler, a specialist, limited from the start, a worshipper of new things, particularly those "made in Germany." It is interesting to observe his attitude toward the ailments of a child. Usually he dodges its treatment, preferring other specialties. Occasionally he makes a fad of its dress or nursing-bottle.

When an out-and-out "new doctor" devotes himself seriously to the therapeutics of infancy and childhood in everyday practice (not in an occasional cyclopedia article), the result is very entertaining to the reader.

A recent Philadelphia medical journal presents the views of what is evidently a new doctor, who has attained a professorship in a medical school of good standing, upon the treatment of infantile convulsions. Some excerpts will show the new ideas, mingled with those long known to the profession.

The physician called, he says, should set out instantly, having ready to hand (or sending for them on his way by the father or most alarmed person) the following articles, viz.: chloroform, chloral, a cylinder of oxygen, a hypodermic syringe, morphine, a soft rubber catheter, a fountain-syringe, a clinical thermometer and three or four rolls of cotton wool. Arrived at the house, he should direct each of the bystanders to get various objects which may be needed, sending one person after each, viz.: blankets, sheets, large towels (preferably bath-towels), mustard, hot water, a bath-thermometer (this latter seems to be the most important implement, as he has already sent the father or most alarmed person for it).

If the child is found in a bath it is at once to be taken out, as the bath may have overheated the skin; the possibly excessive mustard used is to be rinsed off and the skin protected from injurious results by petrolatum. Having packed and chloroformed the child, he explores its heart, lungs, nose, ears, and prepuce.

For prolonged or excessive convulsions hypodermics of morphia, one-fiftieth of a grain at six months, repeated in double this dose if it is necessary in an hour, are recommended, with four grains of chloral by rectum. If the child is obstinately constipated our author recommends half a drop of croton-oil, without stating at what age this powerful dose may be risked.—*Maryland Med. Journal.*

INDIA AS A HOME

Now, from a medical point of view, why should India be unsuitable as a home for Europeans? Could any medical man in the country give an intelligent, reasonable answer? We believe no one can do so. To put the question directly, Why should India be more unsuitable than the United States, or South America, the West Indies, Australia, Natal, and other localities, where Englishmen and Europeans dwell and have thriven. Is it the climate, or the fierce rays of the Indian sun? Somehow, Europeans have thriven in other lands as colonists, where the summer is hotter than that of India. They have conquered difficulties. They have prospered. They have proved the grit there is in English manhood, and for that matter, English womanhood too. Wives and sisters have shared the lives of the colonists. We abhor the word exile being applied to England's sons who go to people a greater Britain. The term in this connection is the essence of claptrap and nonsense. Englishmen in India are very fond of applying it to themselves, whether it be the burra sahib on big pay or the draper's assistant just out, yet long enough to catch the modes of expression current. It is all supreme humbug.

They are very glad in England, to accept service in India. The family were rejoiced that John, Dick, or Harry had such an excellent opportunity of making a man of himself. Exiles forsooth! We have no patience with people who are caught by such cant and formulate it. No man leaves his country except with a purpose, and that purpose is advancement in life, and, if possible, making a fortune. The clap-trap soothes vanity. Vanity is fostered and soothed by self-pity—its highest expression. It passes from circle to circle in social life, though everyone knows there is not a grain of truth in the statement. The injury done to India by the falsehood is incalculable.—*Indian Lancet.*

SOMETHING FOR NOTHING

It would seem that where one's general welfare and bodily health were concerned, the mercantile instinct which impels the intending purchaser to seek the lowest market and the shopping fiend to travel to a dozen stores and waste as many half-hours to save a few cents, would not influence the patient in his choice of a physician. Rather should it be ability and experience which guides his selection, but unfortunately this is not always so.

People think that probably the cheap man will help them, at any rate it won't do any harm to try him, and later, if obliged to pay for the advice desired, they will consult some one who is capable. Lodge-doctors come cheap and their services are usually worth quite as little as their charges, and if the active competition continues we may expect soon to find premiums offered for patients—indeed as an actual fact a physician in Providence was asked to give "trading stamps." This would be decidedly funny were it not so pitiful.

To what straights are we reduced when intelligent men and women can ask such foolish questions? Is the practice of medicine so low in the professional scale that it needs to be bolstered with advertising mediums and bargain days?

In no branch of medicine is this mania for getting free advice better shown than in the practice of the oculist. Every day some patient presents who has run the gauntlet of the "refracting optician" and sadly to his cost. The premiums thus paid to experience are apt to be so positive that in that particular case the folly is never repeated, but new ones arise and these fakirs build their hopes and successes upon the adage that there are as good fish in the sea as were ever caught.

Recently there have come to our attention several flagrant cases where actual harm has been done bv these men, and it needs but a few repetitions to warrant legislation to suppress them—not to aid the legitimate physician, for his work is increased by their blunders, but to save the people who ought to know better from being so imposed upon.

A mother took her son, a lad of six or seven, to one of these places where eyes are examined free and presided over by a refracting optician. The child's teacher had noted the difficulty experienced in reading and had notified the parents of a probable defect of vision. When placed before the types by the examiner the vision was found to be poor, and it was not apparently improved by any glass placed before the eyes. But this was no stickler for a man of science, he had an ophthalmoscope, and although he did not know how to use it, he made the woman think he did, and looking into the eye, he gravely announced that there was nerve-trouble and that medicine was indicated. "Give the child strychnine for a few weeks," he said. No dose was indicated but the trusting mother made for a drug-store and asked for some strychnine. Strange to say, some tablets of 1-30 grn. were given her without a prescription and straightway she began to feed them to the child.

In a few days she noted a strange jerking of the muscles, and consulting then a physician, the case was diagnosed as chorea in ignorance that such a drug was being taken. The eye-symptoms were now more pronounced and an examination under a mydriatic revealed a hypermetropia of nearly six dioptres with added astigmatism.

Correction of this defect, and cessation of the strychnine, in a few weeks restored the boy to health, but even now after fatigue or excitement, choreic movements never noted before the administration of the drug, are present for short intervals.—*Atlantic Medical Weekly.*

THE HURRIED AND CARELESS EXAMINATION OF PATIENTS

Physicians, with large practices and the greed of gain, are very apt to become careless in more ways than one. That one who has a large and lucrative calling in any sphere of life should become indifferent toward his patrons seems absurd; merchants and other business men do not usually encourage any of their clerks, nor do they themselves shun their clients when their establishments grow to be of vast importance in the community. Should not the same rule apply to physicians? We think more so, from the fact that a doctor's calling is far beyond and above that of many others, and the physician should conduct his affairs with very much more exactness than any of those mentioned.

We are often told by patients, who have had a certain doctor for many years, that "Doctor so and so was at one time a splendid doctor, but since he has gotten to be busy, he is not worth the room he takes up," being too hurried and careless with his examinations and diagnosis, in fact so much so that they have become disgusted, and in consequence have gone elsewhere for treatment. Patients who pay for their medical advice and attendance should receive all the time necessary for their case, no matter how many are waiting to follow them. We have been told of a prominent physician who claims to be able to wait on a patient in one minute's time; any practical physician can at a glance see that this is impossible, and at the same time do justice to the patient.

Physicians should not forget that their existence depends entirely on their friends and clients, and they should be willing to give them ample services in return for the fees they collect. The passage "it is more blessed to give than to receive" might be here applied, and therefore give freely of your services to those who require them, especially if properly renumerated. A patient will think more of a physician who makes a thorough effort to diagnose his ailment, though wrongly so diagnosed, than if hurriedly made and incorrectly at the same time.—*Charlotte Medical Journal.*

THE BILL BEFORE CONGRESS ABOLISHING ANIMAL EXPERIMENTATION IN THE DISTRICT OF COLUMBIA

This is not the official title of Senate Bill No. 1063, but indicates the intent of its originators in framing it, as well as the practical effect of its execution. The bill, as originally worded and in its present form before Congress, has all the silky softness of a kitten's paw to the casual observer; but sharp and vigorous claws lie concealed within its insinuating fairness, which await only the legalization of its provisions to assert themselves in their destructive work. The measure is entitled "A Bill for the Further Prevention of Cruelty to Animals in the District of Columbia," and it is in this harmless guise that the Humane Society of Washington is endeavoring to usurp to itself the power of controlling all animal experimentation, not only in the Government laboratories, but also in those of the medical schools and private individuals. The advocates of the bill are most specious in their arguments in favor of abolishing imaginary cruelties of a most horrifying character and preventing their occurrence by means of carefully issued licenses and a system of regular and irregular inspection. The harmful character of the bill, as an entering wedge in the hands of visionary enthusiasts destined to prevent all animal experimentation, and so striking at the root of all progress in organic medicine, has been clearly pointed out by the scientific members of the medical profession resident in the city of Washington. This view of the measure has been confirmed by numberless memorials to Congress from all the prominent medical and scientific gatherings which have convened in this country for the last two years, and yet the measure is constantly gaining in strength and steadily approaching the goal of its final passage. It is one of the many illustrations of the fact that a small association of persistent individuals, especially if it contains within its number a few visionary women, can, by gaining the adherence of two or three strong advocates, carry almost any measure through any State Legislature or even through the National Congress, unless it is met and opposed by some scheme of what is known as practical politics. "Practical politics" means the control of a certain number of votes.

Up to the present time, the great brotherhood of medicine and allied sciences has rested upon the belief that its opinions carried weight with the politicians, because it believed the politicians had respect for the opinions of men who must know more upon the subject under discussion than anyone else. Medical societies have therefore contented themselves with simply embodying their opinion in the form of resolutions and presenting them to Congress. It is becoming daily more clear, however, from the progress of this matter, that he who counts upon a politician taking up a cause and throwing the weight of his influence and effort into the fight in its behalf, is certainly reckoning without his host. Sad though the conclusion may be, there no longer exists in our legislative halls a single champion of truth for truth's sake, or of justice for the sake of right. The sooner the medical profession acts in accordance with this understanding, the sooner will it be able to accomplish its end, in caring for the welfare of the community as well as its own safety and progress. Every question before Congress must be put upon the basis of practical politics. In the question at issue, the medical profession is practically unanimous in its opinion of the harmfulness of the pending measure. The only way to make that influence tell, is for each and every one of the one hundred thousand physicians of this country to write a letter to his representative or senator in Congress, notifying him that the medical profession takes issue with every representative or senator who does not oppose by his voice and vote this harmful bill. Certainly, there is no question before Congress designed to come home personally to each member of the profession in so harmful a way as this one. The touchstone of his support in the re-election of a member of Congress should be the attitude that member has exhibited toward this bill, and every candidate should be made to know and feel it.—*Medical News.*

BOOK-REVIEWS

The *Reporter* has at times encountered publishers who have felt deeply injured at unfavorable opinions expressed regarding their productions and who have gone so far as to say that if the journal would not review their books favorably, thev would send no more to it.

This view of the matter simply means that the editor is to be paid with a copy of a work for a favorable advertisement of it, regardless of truth. The old story of the grocer who retired from business because he "couldn't stand it to lie for sixpence and then have to charge it," would seem apropos to such case. Even granting that an editor should disregard his duty to his readers and should regard the complimentary copy of a book as a *quid pro quo* for a flattering notice of it, few books represent the advertising space-rates of a review of ordinary length.

In the long run it pays any publisher to have his works brought before the readers of a journal in the line of publication. But the duty of the editor is to give each book entirely candid consideration. The publisher who disagrees with the ethics and common sense of this dictum is of about the same stamp as the patient who discharges his physician so soon as the latter gives an unfavorable prognosis, and who is contented only in the hands of the man who will cajole him with pleasant statements, however far from the truth.—*Medical and Surgical Reporter.*

A SENSIBLE VETO

The State of Illinois has good reason to congratulate itself upon the possession of a Governor gifted with good sense and a due regard for the welfare of the citizens within its boundaries. We are led to this conclusion by seeing that he promptly vetoed a bill recognizing the osteopathic school of practice as legitimate. He very justly states this a question which comes within the legitimate purview of the State Board of Health.

Poor old Missouri! As has often been remarked. The osteopaths recognized, the homeopaths in possession of the State Insane Asylum at Fulton, the State Board of Health knocked out by the Supreme Court; what is there left for the regular medical profession but to hide its head in shame and acknowledge that the fifth State in the Union in point of population and enterprise is a "tail-ender" so far as its medical status is concerned. We feel humiliated at our executive and our courts, but we still feel prouder than ever to be of the regular profession.—*St. Louis Med. and Surg. Jour.*

SELECTED PAPER

GENERAL THERAPEUTICS OF INFECTIOUS DISEASES *

By ALBERT ROBIN

THE author seeks, in the chaos of modern methods of treatment so much increased by the discoveries in microbiology, to select the truly practical indications after first reviewing the best-known facts which to-day control the pathology of infectious diseases.

A man was brought into the author's service in the hospital with the classical signs of *la grippe* who soon developed a pleurisy with effusion, displacement of the heart, and some peripheral pneumonia. He got well in spite of grave fears for him. Two cots farther on lay a compositor with lead-poisoning, who two days later got the *grippe* and died. The necropsy showed nothing; the cultures from the fluids gave no peculiar organisms. The grave character of the illness was due to special susceptibility in him, notwithstanding the preservative and antiseptic quality of the lead in his system, for the patient had been doing well until he was stricken with the *grippe*.

In 1892 the author presented to the Academy a case of broncho-pneumonia fatal in a syphilitic in the midst of full mercurial treatment in hospital. This strongest of antiseptics had no power against the infection which destroyed him. Lately the Society of Therapeutics has brought forward many facts in support of the author's, maintained for many years, that the introduction into our tissues of a toxic substance puts them in a condition of least resistance, and, far from preventing the development of micro-organisms, favors their reproduction. He does not believe in the possibility of successfully antagonizing infectious disease by the internal use of antiseptics.

The effects due to the introduction of microbes into the organism are very different from those which they produce in simple cultures, and the means which succeed in surgery are no longer admissible when the microbes have invaded the economy.

The organism represents a collection of cells, and the life of each consists in receiving and guarding the elements which enter into its woof and webb, and rejecting those that are useless or dangerous to it.

The mucous membranes and the skin keep off invasion of enemies from without. If bacteria, which also are cellular beings, pass the barrier they must live on elements of our organism borrowed from our cells to their detriment. Besides, the bacteria elaborate toxins pathologic to the organism. To this invasion the organism offers three kinds of defense: First, morphologic; second, physical; third, chemical.

1. The tissue throws out by hyperplastic process a veritable sclerotic barrier, such as the cyst about tubercules.

2. White blood-corpuscles multiply, either generally or locally, take on increased ameboid activity (chemotaxy), and attack invaders—the phagocytosis of Metschnikoff enlarged upon by Renaut, of Lyons.

3. The plasmas employ antitoxins, which they produce at the moment of the struggle against the infection, with true microbicide power. This is the basis of the treatment of Behring and Roux against diphtheria. These antitoxins neutralize the toxins much as alkalies neutralize acids: they exite the vaso-motor centers, increasing circulation and exalting chemotaxy. On the one hand the cellule—the microbe—is invading with toxins; on the other, the cells of the organism defend themselves with phagocytes and antitoxins.

Antimicrobe therapeutics are prophylactic, immunizing, and curative.

1. The new notions have done wonders here, thanks to hygienists in disinfection of rooms, soiled linen, barracks, hospitals, markets, slaughter-houses, stables, etc. In surgery and obstetrics, asepsis and antisepsis, though born but yesterday, have produced miraculous results, for they have suppressed puerperal fever and septicemia. This is the supreme triumph of the school of Pasteur.

2. Pasteur was not satisfied with preventing people from becoming sick; he pro-

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* Translated and condensed from *Bul Général de Thérapeutique*, Nos. 1-5, 1897, for the AMERICAN MEDICO-SURGICAL BULLETIN.

ceeded to make them immune against disease. The results obtained against smallpox with Jennerian vaccine were very encouraging, and revaccinations have recently been shown to put epidemics to flight. The results of this method against cholera, yellow fever, etc., have not been similarly successful; but in veterinary medicine, vaccination against epidemics in animals, seems to have given encouragement.

3. Every time a blow could be struck at the enemy (as in malignant pustule, furuncle, erysipelas, and diphtheria), the results obtained were marvellous. In cavities easily accessible, eye, nose, mouth, ear, vagina, rectum, and in superficial affections of the skin, the direct antiseptic acts with certainty. But when the microbes invade the depths of the organism they are endowed with such greater resistance than the cells of the organism that we cannot think of killing them without fearing to endanger it. We cannot hope to kill them there without compromising its very existence.

Internal antisepsis would promise most in the stomach, being as it is a transitory medium between accessible cavities and the closed interior of the organism. When there are vicious digestive fermentations we find in the urine a larger quantity of sulphur conjugates; and the tenure of sulpho-conjugate acids in the urine is always proportionate to the intensity of the vicious fermentations going on there. But the amount never lessens under internal antiseptic medication unless the amount of the antiseptic given is so large as to suppress peptic digestion. Similarly nothing has been gained by inhalations of medicines against the bacillus of tuberculosis; nor has any good resulted from the hypodermic administration of mercury or camphorated naphthol. It is not impossible that some day an antiseptic may be found that will destroy the vicious ferments while leaving the enzymes of digestion unaffected. In industrial fermentation the fluorides kill lactic-acid ferment, but allow the yeast (or barm) to act. Internal antisepsis, therefore, has so far failed, and microbiologists have abandoned it for serotherapy.

The toxins produced by microbes are neutralized by the antitoxins manufactured by the cells of the organism invaded, at the same time that they heighten vital reactions and increase the chemotactic power of the white blood-cells. Animals are inoculated with virus of tetanus, diphtheria, erysipelas, cholera, septicemia, etc. After the blood of the animals is charged with antitoxin, it is withdrawn and the serum is used as a medicine against the disease, the antitoxin fortifying the organism in its struggle against the invading microbes and their poisonous toxins. In spite of the marvelous results of Behring and Roux against diphtheria, similar treatment of tetanus by Roux, Fizzoni, Cantani, Chantemesse and Berger has yielded nothing. The results of the efforts of Richet and Hericourt with cancer and tuberculosis are still problematical. And serotherapy has failed in variola, cholera, and all other infectious diseases.

Lastly, Marmorek's serum in the hands of Chantemesse has given a mortality of 3 per cent., whereas the author has yet to record a death in erysipelas from treatment by spray of Van Swieten's liquor.

Besides, there is a temptation to trust to the serums to the neglect of the previous state of the patient, to fold the arms and do nothing while awaiting the arrival of the serum. It is the duty of the physician not to neglect general measures even when using the serum.

We know the microbe causes the infectious diseases. We know we cannot reach it by our present means and that the organism has powerful means of defense. The rôle of the doctor is to exalt vitality, increase the energy of vital reactions and improve the soil on which the parasites grow. This can be done through clinical knowledge and through well-founded knowledge of chemical biology. Whatever serotherapy may do in the future, it can never be the only therapeutic measure, nor even the most important.

Antithermics and antipyretics rule as masters, with antipyrine and sulphate of quinine in large doses as agents. Not content with these, others are being sought—all toxic substances having the power of preventing the oxidations of the organism while lowering the body-temperature. They are capable of causing the greatest damage to the patients. Dujardin-Beaumetz well expressed this when he said in his latest lectures, with that skeptical and paradoxical spirit which characterizes him, "The true and best-established contra-indication for the antithermic and antipyretic process, is the fever itself." What follows will be an explanation by chemical facts of what is thus so well expressed.

Traube's explanation of fever was that the loss of heat failed to go on normally and harmful accumulation of it in the organism resulted. We now know that all increase of heat in the organism is due to chemical action with more energetic disintegration of albuminoids and hydrocarbons of the organism. As disintegration and oxygenation were confounded, it was supposed that disintegration meant so much oxygenation, and that this was the cause of the fever. Naturally, antipyrine and other antipyretics, if they tended to suppress superoxidation, came into vogue, the more so as it was found they belonged to the class known as aromatics, which also have analgesic and antiseptic properties. Fever had two factors: First, infection; second, the nervous disturbances which accompany it. It was logical to employ antiseptics that, at one and the same time, suppressed oxidation.

Against this, however, it must be stated that the antiseptic character of antipyrine, acetanilid, etc., is in the lowest rank. And as to their effect on the nervous system, their property of destroying red blood-cells, or at least inhibiting their oxyhemoglobic function, makes them nerve-depressors.

Fever has been shown to be a complex phenomenon taking place in two stages, as Hoppe-Segler has shown, the first of which consists in splitting up and dehydration of the compounds which undergo change; in which process, as Berthelot has shown in his works on thermo-chemistry, an enormous quantity of heat is liberated. The products of this dehydration represent extractives, insoluble and cumbrous to the organism, as well as toxic to a high degree. Then comes the second stage of true oxidation, by which the organism seeks to destroy and thus get rid of these extractives by putting them into a form more soluble and more easily eliminated, the latter a much less heat-producing process than the former.

Four processes are used to check the qualitative and quantitative valuation of organic combustion:

1. Urea represents the most perfect product of oxidation, or evolution, of albuminoid matters, while the xanthines, creatine, creatinine, etc., represent a less complete evolution; to these must be added ptomains, leucomains and all toxic matters of the organism. Thus a constant relation between the energy of these diverse actions in all physiological or pathological conditions can be established, by noting on the one hand the total amount of nitrogen given, and on the other the amount appearing in the urea alone, which furnishes the coefficient of nitrogenous oxidation sought.

In the normal state this coefficient is 85 per cent., i. e., 85 per cent. of nitrogenous food is transformed in the organism into urea by undergoing complete disintegration. The remaining 15 per cent. passes away as extractives which represent incomplete disintegration.

2. The respiratory quotient has been determined by the author in collaboration with Maurice Binet, and is normally even as high as 81.7 per cent.

3. Benzol administered to an animal is transformed: 33 per cent. of it is changed into phenol and the remainder passes off unchanged. In febrile states 20 per cent. to 30 per cent. only of the benzol is thus changed to phenol.

4. A minimum of ten grammes of sodium lactate is completely burnt in the healthy individual. In one with typhoid fever but from six to eight grammes are thus consumed, which proves that in febrile affections, oxidations are not increased, but considerably diminished.

What are the exact changes going on in fevers? Which factor is increased in the disintegrating process—the hydration or the oxidation?

The organism struggles against the invasion of pathogenic germs by producing antitoxins and by an intense organic reaction. By what is this represented chemically? The author gives figures representing the coefficient of nitrogenous oxidation for a period of typhoid fever, the mean being taken. The normal coefficient is 85 per cent.

In a benign case of typhoid..	84.7%
In a more serious case......	82.7%
In a very serious case.......	72.9%
In others..................	72.0%

Thus, it is seen, in the mild cases the organism is able to burn up its extractive matters very well, but in the more serious cases the oxidations are much diminished.

The author in his findings disagrees with Liebermeister and others in his general results as to the respiratory coëfficient. If the normal is about 80 per cent., he finds that in infectious pneumonia and serious typhoid the coefficient drops to 75 per cent. and even 62 per cent., which means that the organism utilizes no more than 62 out of 100 parts of oxygen inspired. In typhoid fever, the coefficient is in defervescence, which is the opposite of all ideas admitted about fever. A patient in the author's service furnished interesting results in this particular. He was a man afflicted with a serious biliary infection. In the first period of his illness his temperature rose to 103° and 104.5°. He took per minute and per kilogram 4.6 c.c. of oxygen and breathed out only 3.6 c.c. of CO_2. His temperature then fell to 100°, when he took in at once 7 to 8 c.c. of oxygen and breathed out 4.7 to 5 c.c. of CO_2, i. e., when the temperature was low oxidation was high, and vice versa.

The conclusion from these curious facts is that in infectious poisoning the organism becomes charged with hydration-products, insoluble and toxic, whose formation is accompanied by liberation of considerable heat. They must be got rid of at any cost; but the function of emunctories is disturbed, and nothing can get rid of them but the process of oxidation, which will change them into soluble bodies, easily eliminated and absolutely harmless. It is just at this stage that the antipyretic method comes in to hinder this salutary action, the very time when the organism is most in need of its oxidizing forces. It reduces the temperature, of course, but at what a cost? It is proper to reduce temperature, but not in this harmful way. The true indications are to lessen chemical decomposition and to increase oxidation.

Putting together the above notions, we get the following picture: The organism is invaded by the microbe poison, and, under the blow of this attack, an energetic vital reaction is established. The microbe produces toxins; the organism defends itself by producing antitoxins and by disintegrating itself. But if these products of disintegration and these antitoxins are harmful to the microbe, they are also dangerous for the patient, because he also undergoes their action. The organism, therefore, must be in a position to eliminate both the microbic poisons and the poisons which it has produced itself. To accomplish this end there is only one resource, oxidation; that is to say, the total combustion of these products—a combustion which makes them soluble, eliminable, and lessens their toxicity. The fever, the immediate result of the poisoning, is secondarily the cause of a nervous trouble which places the organism in a condition where it is in a position to react usefully; that is, as we have seen, the hydrations are increased in fever, while the oxidations, on the other hand, are greatly diminished. From this results a clogging up with waste, both insoluble and toxic. The clinical facts supporting the theory will now be given, taking typhoid fever.

The solid matters eliminated by the kidneys in the course of the typhoid state during twenty-four hours are:

For a mild case............	52.9
For a grave case...........	50.0
For a fatal case............	45.0

These figures are the mean of a large number of cases. The retention of waste is greater the more serious the gravity of the disease.

The figures are more suggestive when given for different periods of the disease:

Case of Typhoid	Typhoid State	Defervescence	Convalescence
Common	50.	53.40	56.29
Very grave	48.	56.50	60.13

This shows that with defervescence commences the rapid elimination of these products of disintegration and that it becomes an enormous discharge of waste products during the period of convalescence.

Extractive matters in the blood in normal physiological conditions amount to from 4 to 4.5 per cent. In typhoid fever:

Mild cases	6.50
Grave	7.80
Fatal	10.22 to 12.10

The blood, during the infective period, becomes charged with two or three times too much extractive material, i. e., toxic matter. The struggle of the organism is directed to getting rid of, that is, burning completely (by oxidation), these dangerous products that produce the special intoxication in infectious diseases. When, therefore, in the course of typhoid, we see the proportion of solids in the urine increase, we can expect a favorable crisis and make a good prognosis; but, on the other hand, when we see them diminish, even with more favorable general symptoms, we can be almost certain the patient's condition will grow worse. The chemistry of the urine is very important. The observation made here in connection with typhoid fever is equally applicable to the other infectious states. The typhoid state is characteristic of intoxication by any infectious agent. The very great importance of these facts lies in the conclusion which naturally follows from them, viz., that chemical lesion takes precedence of the anatomical lesion itself, because the former precedes and causes the latter. This is of prime importance in both general pathology and general therapeutics,

In 1877 the author showed the toxicity of extractive matters in the urine by inoculating animals with urinary extracts.

The urine is the natural emunctory of the extractive matters when they are soluble, and the kidneys have kept their integrity, the chemical process being associated with the physiological.

The respired oxygen can oxidize a certain quantity of disintegrated matter; but, in infection, there is a surcharge from overproductions of toxins and antitoxins by the cells of the organisms. A greater quantity of oxygen is needed for their oxidation, but the amount inspired is actually less owing to the disease itself. In fact, as the author has shown in his work with Maurice Binet, the red blood-cells have actually lost much of their power to absorb oxygen as well as of their property of holding it. Consequently, the oxygen absorbed was less, the respiratory capacity was lowered, and oxidation was proportionately reduced. The result was surcharge of the organism with extractives.

In all febrile affections the eliminative power of the emunctories is always lessened, which is proved by the invariable presence in them of albuminuria. This increases the failure of elimination of waste. The heart itself is affected by the infectious process, the arterial tension is lowered, and it lowers in turn the renal function. Also, the amount of CO_2 expired is diminished, and the discharges from the intestines are less frequent.

Once having gained entrance, the bacillus acts by producing toxins in quantity directly proportionate to the virulence of the microbic poison. The first effect of the intoxication is to hinder oxidation, which alone can change into urea the products of disintegration and hydration formed in excess, the cause of the first pathological phenomenon of increase in temperature. Retained in the blood, they cause intoxication, the next pathological phenomenon.

The indication is to put the organism in position to struggle against the parasite by carefully preserving its integrity, by favoring oxidation and hindering hydration and disintegration of organic compounds, so singularly exalted, and thus favoring elimination, which is the end to which all the forces of the organism are directed. In this way only can we hope to exercise a truly favorable therapeutic action on the course of the disease.

To this end everything that can act favorably on the circulation, on the kidneys, on the digestive tract, on the respiration, in a word, on the agents capable of affecting the phenomena of disassimilation, can and ought to be tried; but all treatments of symptoms ought to be mercilessly rejected, in spite of the apparent benefits they produce, if they act so as to arrest oxidation.

The therapeutic measures are as follows:

To diminish the formation of disintegration products which, in addition to being formed at the expense of the tissues disintegrating, set free the mineral base of the cells, thus demineralizing the organism, a very simple means is available, viz., to furnish to the febrile processes, under the form of food, nitrogenous and mineral substances that are oxidized during the period of struggle against the infectious element. To this will be added those medicines found by experience to lessen disintegration of the tissues.

To fulfill the first indication, the food must be as light as possible, and in very small quantities at a time, on account of digestive insufficiency in the febrile state. Milk and bouillon will be preferred. The milk should have the cream removed to take away the fat and make it easier to digest. About eight ounces may be alternated with bouillon. It has been claimed that bouillon contained extractive matters dangerous and poisonous. "Now, fresh-meat bouillon never has been toxic. Moreover, it is a liquid that contains peptogenic principles very useful for patients whose gastric secretions are weakened, and, finally, it contains most of the salts of the meat, especially those of potassium, which are the best tissue-producers." A typhoid patient loses about 1.8 grammes of potassa in twenty-four hours, which represents 2 per cent. of the total contained in the organism; then, in ten days of sickness he might lose at this rate the fifth part of his constitutional potassa. Repair of salt is useful to him, and the best way of making good his loss is by administering bouillon, about a liter a day. Oranges and citrons, or lemons, also contain a large quantity of potassa, and may with great advantage be given, the more so as their fruity acid and flavor make them grateful to the fevered patients as well as helpful to digestion by virtue of their free acid.

To meet the second indication, caffeine, tonics and all drugs whose action on the nervous system enable them to hinder waste of the organism, may be administered. The chief of these are quinine, alcohol, caffeine and acetate of ammonia. They will act most favorably in small doses given often. Quinine in large doses is antipyretic and hinders oxidation, but in minute doses, oft repeated, it acts as a tonic, lessens organic disintegration and does not diminish oxidation. From three to four grains three times a day will be the largest dose admissible to meet the indications. Frequent draughts of coffee in half-cup doses, of the strength of one ounce to the half-cup, are beneficial. Or, caffeine may be given hypodermically. Alcohol ought to be much diluted—a dram of rum, or brandy, in the form of citron or orange grog, to the extent of one and one-half ounces a day. The régime will then be as follows:

Every twenty minutes one of these things, each taking its turn, i. e., milk deprived of its cream, bouillon, and weak grog. Four times a day a half-cup of black coffee. Two or three doses of quinine in twenty-four hours. This is the minimum for food. It may be doubled or tripled for thirst, or other indication.

2. Though the combustion going on in the organism is increased, it is incomplete, the extractive matters being arrested in their transformation at the toxic stage, where they are insoluble, encumber the organism and are harmful to it. The aim must be to oxidize them completely, thus rendering them more soluble, less toxic, and easy of elimination. Naturally these phenomena are accompanied by rise of temperature proportionate to the caloric freed in the disintegrative processes. To this increase of temperature clinicians have given their attention.

(*a*) Antipyretic is the most dangerous of all medication. Consequently antipyrin and its succedanea of the aromatic series, including quinine in large doses, ought to be absolutely proscribed in the treatment of infectious diseases; for the principal result of their use is to arrest oxidation and cause retention of toxic materials, while at the same time favoring the production of more of them. In a healthy man, to whom we give a daily dose of 30 grn. of antipyrin, the coefficient of oxidation falls from 80 per cent. to a point between 77.75 and 70 per cent.; and the return to normal, after stopping the medicine, requires from three to five days. Similarly, in an infective fever with high temperature, antipyrin diminishes the amount of oxygen absorbed, while the elimination of CO_2 is equally lowered (Albert Robin and M. Binet).

Phenic acid exercises a still more harmful action, for, in addition to arresting oxidation, it produces sulpho-phenic acid by borrowing sulphur from the tissues. This would be especially bad in a typhoid patient, whose condition is already impoverished by demineralization.

But it is desirable to lower the temperature, for, though the febrile action is a favorable phenomenon, yet the increase of caloric is a danger. To suppress the harmful effects of this caloric we have abundant means, such as spongings, cold baths, abundant drinks, which abstract heat without arresting oxidation; in fact, they increase it. Fever is not the important danger in infectious diseases, since it represents a favorable epiphenomen—that it is an essential of the organic struggle against the toxic element.

(*b*) Cold baths favor oxidation, as well as abstract heat, by increasing the physiological reactions against the infection. They increase combustion and complete oxidation of the extractive products of disintegration and hydration. They also increase diuresis and unload the circulation of the waste they have rendered soluble. The cold bath maintains the energy of the nervous system or brings it back; it regulates exchanges and it greatly increases the absorption of oxygen. A typhoid patient absorbed for each kilogram of weight per minute 5.43 c.c. of O_2. On being put into a cold bath the absorption increased at once to 6.49 c.c. In like manner, the CO_2 expired increased from 3.77 c.c. to 4.43 c.c. (Albert Robin and Maurice Binet). At the same time, the thermometer lowered and the urea mounted to 20 per cent. As the amount of O_2 absorbed was greater than the CO_2 eliminated, it was inferred that the excess was employed in burning up extractive matters to increase the output of urea observed. Nothing more is needed to demonstrate the surpassing value of cold baths in typhoid and other infectious fevers.

The patient's room, besides, should be well aired, kept at 66° F., and enriched by free oxygen.

(*c*) Oxidizing medicines may increase oxidation directly, by giving it off when introduced into the economy, or indirectly by modifying the media and putting them in condition to react more energetically.

1. Treatment by direct oxidizers is theoretical. Experiments with chlorates and permanganates have produced more energetic oxidations; but the real advantages do not counterbalance in practice the evils of their own toxicity, the permanganates especially altering and injuring the tissues. Experiments by the author on a dog showed that very large quantities of the permanganates would have to be used to accomplish anything.

2. Certain substances enjoy the power of facilitating combustion of organic substances in the blood. Such are sodium chloride, the alkalies, and the organic salts, citrates, and tartrates. The latter are really alkalies in their action, because they decompose to become bicarbonates.

Then, in addition to orangeades and lemonades, patients could drink from sixty to eighty grammes of soda a day in the form of a mineral water. The excess of liquid also aids in oxidation, as the author demonstrated experimentally in 1886.

Small doses of quinine, often repeated, also aid oxidation. So of alcohol; that is, the agents found indicated as able to hinder disintegration are also endowed with power to oxidize the extractives, which fact simplifies the treatment and does away with the necessity of much medication.

3. The toxic substances are dissolved and eliminated by the following means: (a) Two substances, salicylic and benzoic acid, favor the excretion of nitrogenous substances. Salicylic acid is found again in urine as salicyluric acid; but it disturbs renal function and, therefore, is unsuited to our purpose.

Benzoic acid is too irritating to the stomach; but benzoate of soda is eliminated in the form of hippurates after combining in the economy as glycocollates, in which form they represent the products of disintegration. And they do not favor organic disintegration, since they unite with the nitrogenous substances already in circulation.

The administration of benzoate of soda is limited to from forty-five to sixty grains a day; beyond that it is not utilized. Quinine or alcohol, or both, might be combined with a solution of it. Two contraindications must be looked for, irritation of the stomach and albuminuria.

(b) The aromatic series furnishes bodies capable of combining with organic nitrogenous substances to be eliminated as quaternaries. They are derivatives of toluene, xylene, mesethylene, ethyl, propyl-benzine, such as benzylamine, acetophenone (or hypnone), cinnamic acid, phenylpropionic acid, quinic acid, etc.

Toluic, anisic, cuminic, phenylacetic acids are transformed in the organism into analogues of hippuric acid, viz., toluric, anisuric, etc., etc. Of these the salts produced that are most soluble might be chosen. But these aromatics contain products which depress the nervous system. When such is the case they must be rejected. Two the author has found unobjectionable, except that anisuric salts are less soluble than the hippurates, which, therefore, would make them less valuable than benzoate of soda. The other, phenylacetic acid, forms salts more soluble than those of benzoic acid, according to the researches of Wernich; but the author has not yet confirmed his investigations.

(c) Once dissolved, the toxic substances can be removed by drainage—abundant imbibition of liquids. But these must contain the salts of which the organism is being deprived by the disintegrative processes. The blood-pressure is increased; this favors secretion. The lavage of the tissues washes out the waste products.

Wilischanin has demonstrated that if a certain definite quantity of septic material is needed to intoxicate an animal maintained on a liquid diet, double or triple this quantity is needed when the animal is made to drink abundantly.

1. Maintain the energy of the circulation by alcohol, cold baths and, in extreme intoxication, digitalis or ergotine as an infusion. In more extreme conditions, give caffeine or sparteine.

2. Pulmonary eliminations are well kept up by the means already indicated, aeration, free oxygen, the heart-tonics just named. To these, effusion of blood by cupping is supported by the author on the ground that epistaxis and intestinal hemorrhages have helped rather than hindered recoveries.

3. For cutaneous elimination, in addition to means given already, he advises diffusible stimulants, acetate of ammonia, etc., but not jaborandi.

4. For renal elimination: Cold baths, nitrate of potash, ether (nitrous) and caffeine.

5. For intestinal elimination: Internal antisepsis, as already pointed, out, is not reliable. Saline purgatives alone will meet the indications. Sulphate of soda is recommended as well for purgation as to aid in diuresis. Cold enemata are advised.

These are the modern methods best adapted to the struggle with infectious diseases. It is noteworthy how the question of management of these diseases has changed since we are able to generalize the symptomology and apply general rules of therapeutics in place of particular prescriptions; and a rational therapeusis, from better interpretation of the meaning of the febrile phenomena, compels us to do away with the harmful intervention of the antipyretic method.

A Fetus Stabbed

The *Nursing Record* (abstracted in the *Med. Times and Hosp. Gaz.*, No. 1007), relates a remarkable case of a woman who, when six months pregnant, was stabbed twice in the abdomen. Both wounds penetrated the abdominal cavity, and, as there were signs of internal hemorrhage, the abdomen was immediately opened. The uterus was found to have been perforated in two places by the knife, and the wounds were closed by sutures, the hemorrhage being thus checked and the immediate danger removed. The patient progressed very well until the third day, when severe pains came on, and on the next day an abortion took place, after which she completely recovered. The fetus was dead, and, on being examined, it was found that one stab had penetrated the left side of the chest, and that another had wounded the small intestine in two places, purulent peritonitis having thus been set up. The case, we believe, is unique, and the fact that peritonitis from the intestinal wound had been caused in a six months' fetus, is a clinical fact of the greatest interest. M.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

JOSEPH P. WINSTON, M.D., GEORGE E. WEST, M D.,
W. J. ROBINSON, M.D., L. SCHÖNEY, M.D.

Coloring Matter of Bile in the Urine

M. Rasmussen, in the *Hospitals-Tidende*, 1896, p. 1200, recommends a new method of demonstrating the presence of the coloring-matter of the bile in the urine. One cubic centimeter of urine is mixed with the same quantity of ether; to this is added six minims of tincture of iodine and the mixture is well shaken. Upon standing the liquid soon forms into two strata; above is the ether with the iodine; below is the urine which remains unchanged when no bile is present, but takes a brilliant green when biliverdin is present. E.

Strophanthus—A Clinical Study

A paper, based upon a clinical study of this drug was read before the Medical Society of the State of New York, at Albany, Jan. 27, 1897, by Dr. Reynold W. Wilcox (*Amer. Jour. Med. Scien.*, May, 1897).

In the observations cited use was made of a 5-per-cent. tincture prepared according to the United States Pharmacopœia from strophanthus (Kombé). In order to eliminate errors of pharmaceutical manipulation the author employed the tincture of strophanthus (Kombé) made especially for him by Parke, Davis & Company. Many of the patients experimented upon had been treated, some for many years, with digitalis and similar drugs, and all presented lesions giving rise to symptoms of marked severity.

Its therapeutic field of usefulness can be ascertained from the following facts:

(1) It acts directly upon cardiac muscle (Fraser, Yeo, Biddle, Potter); (2) it has little or no influence upon the calibre of the blood-vessels (Fraser, Delsaux, Yeo); (3) it acts but temporarily upon the innervation of the heart (Hayem), if at all; (4) it is diuretic (Fraser, Delsaux, Porteous) in certain cases (Yeo), particularly those in which the previously existing blood-pressure is low (Budd); (5) it is a bitter stomachic (White), and in moderate doses does not disturb digestion (Budd), and it relaxes the bowels (Porteous); (6) it is antipyretic (Potter, Rovighi, but denied by Martin) within limited range, because under its administration the consumption of oxygen is smaller and the processes of combustion are depressed (Bartholow); (7) since its active principle is soluble in less than its own weight of water, it possesses the diffusibility of a soluble crystalloid (Fraser), hence the prompt results from its administration; its active principle escapes with the urine (Wood), so that we have also ready elimination (Butler), although somewhat slower than its absorption, and therefore an overlapping of effect from too frequently repeated doses (Bartholow); (8) habit does not seem to impair the therapeutic usefulness of the drug (Farquharson).

The therapeutic indications are, then: (1) Rapidly recurring cardiac systoles of lessened force and irregular rhythm. We get then, first, a more vigorous contraction of the ventricle, with a slowing of the pulse-rate and consequently a lengthening of the diastole, which is the period of rest for the heart; next comes the disappearance of irregularity of rhythm; and lastly, from improved intracardiac nutrition, a permanent strengthening of the heart-muscle. (2) The absence of vasomotor effects enables us to use this remedy in those instances of permanent high tension which are met with in some forms of Bright's disease, in arterio-sclerosis, and in the rigid arteries of the aged. (3) Whenever diuresis can be promoted by increased blood-tension resulting from more vigorous cardiac contractions this may be expected from the use of this remedy. (4) The rapidly appearing effects of its administration, together with its regular elimination, make it the drug of choice when the symptoms are urgent. (5) The absence of digestive disturbances from therapeutic doses and slight likelihood of habituation to its administration make it important when long-continued use is necessary.

The instances in which failure will follow its administration are those of (1) advanced degeneration of the myocardium (Fraser, Quinlan); (2) extreme mechanical obstruction to the circulation from valvular incompetency or obstruction; and (3) a combination of these. In the fully compensated heart this—as well as other drugs of the same type—is unnecessary, and when over-compensation exists it will likely aggravate the condition. The writer is in accord with Hare in acknowledging its great value in the cardiac diseases of children. In addition, in corpulent individuals we obtain most excellent results. Of especial importance we should consider its administration for the weak hearts of anemia and chlorosis.

In general, the author states that within an hour the pulse visibly strengthened, the line of ascension, from being nearly horizontal, approached the vertical, the line of descent suddenly fell, the dicrotic wave disappeared, and the irregularities and inequalities were almost always overcome. Nor is this a temporary effect, as is shown by the permanence of the results upon continuation of the same or lessened dose.

After citing, in detail, twelve observations, the writer goes on to consider the advantages which strophanthus possesses over digitalis, which are summed up thus: (1) Greater rapidity, modifying pulse-rate within an hour (Potter); (2) absence of vasoconstrictor effects; (3) greater diuretic power; (4) no disturbance of digestion; (5) absence of cumulation; (6) greater value in children; and (7) greater safety in the aged.

The administration of strophanthus requires: 1. An active, well-made preparation from a reliable source. 2. Avoidance of its use in fully or over-compensated hearts, in those which present advanced muscular degeneration or mechanical defects of high degree. 3. The use of not too large or too frequently repeated doses. The dose of five drops of a reliable tincture three or possibly four times a day is sufficient.

Strophanthus is the drug of choice in:

1. All cases in which we wish to establish compensation.
2. All cases of arterial degeneration in which a remedy which causes more energetic cardiac contractions is required.
3. All cases of cardiac disease where diuresis is necessary.
4. All cases of weak or irritable hearts.
5. All cases of cardiac disease in childhood or old age.

B.

Infectious Pyelo-Nephritis Cured by Hypodermic Injections of Salt Solution

Bovet and Huchard report to *Bul. gén. de Thérap.* (No. 2, pp. 75-87, 1897), the following recovery by use of artificial serum. The case is one of a class—recurring pyelitis—suddenly breaking out into an infectious inflammation with general poisoning. More often than we think among our rich patients we might find on inquiry that they are unable to satisfy, at the time desired, their intestinal and urinary functions, with the result that their urine is cloudy, smells bad, deposits mucus and pus and contains albumin. With these patients, whose social relations are imperative, it happens that after a hearty meal followed by or following a ball, a chill comes on with from one to three degrees of fever, gastric disturbance and pains in the legs, somewhat resembling the onset of an attack of influenza or typhoid. If you examine the urine you find it small in quantity, grey-brown, with a deposit of half the volume, pus and mucus predominating, having three or four grammes of albumin per liter and a notable proportion of urobiline. Such a deposit, containing the germs of latent infection, demands only a determining cause to produce an outbreak of uremia or any other poisoning. Such is the case of Mrs. X., of rheumatic constitution, under treatment since July, 1896, for utero-ovarian troubles with persistent fever concomitant with pus in the urine and three or four grammes of albumin per liter. Large doses of quinine had been given, which quieted the fever for three months. Though less purulent, the urine still contained albumin when, one evening, the patient was present at a soiree that continued well into the night, at which she had a chill and stiffness of the legs as described above. The next day she was very depressed and complained of pains in the region of the kidney and in the legs. The temperature continued at 100° to 102°, and pus and albumin persisted and increased in the urine in spite of quinine and antipyrine.

On May 3d the urine became muddy, thick, and reddish-brown; amount 600 grammes, albumin 3.65 grammes, chlorides 4.62 grammes, pus abundant, fibrous cylinders, pulse 130, T. 103°, tongue dry, sordes, aphthæ. The surgeons called in consultation advised injection of artificial serum, 7 grammes of chloride of sodium to 1000. Variable quantities of this solution were injected and also given in enemata, commencing on May 5 and ending June 5. May 5 to May 11, 200, 600, 800, 200, 140, 200, 120 grammes were injected; May 19, 350; May 26 to 31, 300, 530, 760, 780, 590, 1600 grammes; June 1 to 5, 1800, 2000, 2000, 1700, 1200 grammes; June 7 to 11, 200, 100, 100, 100, 100.

From May 1 to May 30 the patient's condition was critical, temperature 100° to 104°, pulse 120 to 160, grave symptoms, such as carphologia, crying, delirium, complete prostration.

After this there was amelioration of all the pathological phenomena as soon as the injections were increased in 1700 and 2000 grammes during one week.

The urine changed as follows:

1. The volume increased from 600 grammes at the outset to 1500 or 2000 grammes during the whole time of the large dosage.
2. Chlorides increased from 1.28 on May 5 to 6 and 7, when from 200 to 500 grammes of serum were injected and accompanied with enemata.
3. Albumin diminished from 3 grammes before the injections to .10 gramme after the large dosage was begun.

The clinical phenomena were equally progressive when the injections did not exceed 700 grammes, the pulse and temperature did not vary much, but the patient's strength diminished continually and the delirium increased. As soon as the large dosage was begun, amelioration set in and convalescence followed promptly.

In about one month the patient received 16 liters, 670 grammes subcutaneously and 14 liters by enemata, i. e., 215 grammes of chloride.

On the 31st of May the consultants (Guyon, Potain, Brazy, Labadie-Lagrave, Tuffier) decided to employ the 2000 grammes injection into one place, because of the numerous prickings of the needle over the whole body from the former injections. Both temperature and pulse immediately (i. e., within an hour) reacted from 104° to 102°, and 170 to 138. The arterial tension increased from this time onward and the fever disappeared gradually. The 2000 grammes were absorbed in an hour. Hayem in the cholera epidemic of 1884 made intravenous injections of 2 to 2½ liters of a solution of 5 grammes of chloride and 10 of sulphate of soda in 1000 grammes. Latta injected 9½ liters of liquid in 53 hours. Lesage and Gaillard have followed Hayem's method on a large scale with excellent results. But rarely have 2000 grammes been injected into skin or muscle at one place. If it were done very slowly, 3 ctm. a minute, this large amount might even be exceeded. Daily repetition of this dosage presented no danger. That might not have been so if it had been intravenous, especially if the subject had any heart-trouble. Albumin, urobilin and pus diminished in the inverse ratio of the quantity of serum injected—the larger the injection, the less of these were present.

Two other cases at the Necker are contrasted with the above. One with valvular heart-lesion and cardiac uremia and of plethoric habit, had asytole and mitral insufficiency. He was given an intravenous injection of thirty grammes of the same solution, which caused pallor and dizziness and made syncope imminent. A second dose was borne no better.

The other case was a uremic with general anasarca, difficult respiration and quickened heart-action. The urine was deficient (500 grammes in twenty-four hours) and had three grammes of albumin per liter. Three injections were given subcutaneously, 500 grammes, 1500 and 2000, each with relief, but accompanied by reduction in urine and fatal a few days later.

When there are changes in the heart's functions, intravenous or subcutaneous injections of serum are alike doubtful. The elasticity (as Winter calls it) of the chloride is completely lost, i. e., its ability to dissociate itself or to be condensed agreeably to the circumstances, no longer exists; it cannot diffuse itself in the liquids of the blood and the equilibrium is lost. Therefore, serotherapy fails when there are heart-affections.

As to the theory of its action in those cases which it cures there is a diversity of opinion. Hayem explains it on the principle of dehydration of the blood; others claim for it the elimination of the toxic products. Perhaps it is both these combined, the latter being the consequence of the former. But, in any case, some results are surprises, like the success above detailed. H.

Lithiasis and Gravel of the Intestine

Dr. Dieulafoy, in *Bull. de l'Acad. de Méd.* (March 9, 1897), summarizes his views upon the above subject as follows: 1. There is an intestinal lithiasis, as there is a biliary and a urinary lithiasis. 2. Intestinal lithiasis may manifest itself in the form of sand, gravel, and even calculi. 3. Sand, gravel, and calculi are composed of organic stercoral material and of inorganic matter in which lime and magnesium salts preponderate. The organic and inorganic matter are associated in variable proportions. 4. Intestinal lithiasis is very often accompanied by muco-membranous entero-colitis. 5. As regards its pathogenesis, intestinal lithiasis often forms part of the gouty diathesis. There is a diathetic intestinal gravel, just as there is a urinary and a biliary gravel; on the other hand, there are cases of intestinal lithiasis which can no more be referred to the gouty diathesis than certain cases of biliary or urinary lithiasis. 6. Intestinal lithiasis may manifest itself only by slight symptoms, but most frequently it gives rise to very painful abdominal crises, which Dr. Dieulafoy proposes to call lithiasic intestinal colics, variable in duration and in intensity. 7. These colics are followed by the discharge of sand or gravel with or without glairy and membranous materials. 8. These colics must not be confounded either with hepatic colic or with appendicitis; the diagnosis from the latter condition is of the utmost importance. O.

Heart-Failure

Dr. Wm. P. Whery contributes an article on this subject to the Fort Wayne *Medical Journal*, May, 1897, and he tells us that boards of health have lately objected to returns of death where the cases of mortality are given as "heart-failure." In most instances there is a good reason for this objection, since the real cause of death may be concealed under this term. There are numerous deaths where the heart's action is almost the last effort of vitality. There are deaths where the heart to the last is sound and strong, and capable of continuing its functions if the other organs had not given out.

The study of heart-failures is that of the condition leading up to the debilitation of this important organ. Inflammatory diseases of the heart, of the endocardium and pericardium, and of its great vessels render the organ liable to cease functionating. Mechanical obstructions due to pericardial dropsy or excessive deposits of fat are occasionally factors in producing failure. Congenital or inflammatory deformities of the valves conduce to failure. Thrombi or gas-bubbles in the veins or cavities of the heart may arrest its action. Other causes of failure are found in the various derangements of the nervous system, especially of the nerves regulating respiration and circulation, and those controlling the muscles and digestive apparatus. The pneumogastrics and the numerous cardiac ganglia may be subjected to injury or pressure, the effect of which reacts on the heart. It is possible that a hypertrophied left ventricle may exert an injurious pressure on the intermuscular nerves of the heart, deranging its rhythm and rendering it less able to compensate valvular or other organic difficulties. Asthma as a source of heart-failures should be mentioned here. The most common and deadly factors of heart-failure are classifiable as intoxications. Some of these are administered by the physician to produce anesthesia, but people soon learn to prescribe for themselves such drugs as chloroform, ether, cocaine, chloral and opium.

Opium often causes heart-failure. Children's hearts are very susceptible to it. Patients with degenerated kidneys or feeble and over-dilated hearts often die from morphine in their medicines. Belladonna stimulates the heart and dilates the capillaries. Opium enfeebles the muscular action, and may be useful in some heart-affections. Digitalis and strophanthus and caffeine act somewhat like belladonna, but with less influence on the capillaries, and thus increase blood-pressure dangerously. Alcohol stimulates the heart and relaxes the capillaries, but its habitual use causes degenerative changes in the small vessels. The pernicious effect of this habitual use of heart-stimulants is the production of cardiac irritability, that after some time leads to heart-failure. Like tea, coffee, cocoa, and kola or any other stimulant, tobacco injures by inducing an exhausting reaction. It is very doubtful if the nicotine has anything to do with the unpleasant effect of tobacco when smoked. It is more probable that the untoward symptoms result from the absorption into the blood of carbon monoxide. We have very similar effects produced by inhalation of illuminating gas, or gas from a stove insufficiently closed, generated by imperfect combustion.

The class of intoxicants that more than any other conduces directly or indirectly to heart-failure is the autotoxins. In the course of all fevers, such poisons are very abundant. In prolonged suppuration, chronic wasting diseases, and general exhaustion of the whole system, ptomains are formed that exert themselves the more perniciously because at the same time the vital resistance of the organism is reduced. Certain depraved conditions of the digestive tract, especially duodenal dyspepsia, poison the heart as well as the whole muscular system. Scurvy, purpura, and diabetes act as heart-poisons. Certain skin diseases, such as eczema, and the condition called lithiasis, depend on digestive derangement, and indirectly affect the heart. All drugs and dietaries and beverages that tend to induce trophic diseases and degenerations of tissues must be reckoned as causes of heart-failures. In conclusion, the author considers three propositions:

There is such a cause of death as heart-failure; obstruction conduces to heart-failure whether it result from a defective heart or peripheral abnormalities; the great operating cause in cardiac failure is intoxication whether due to drugs administered, or to toxins generated within the organism.

B.

Hot-Air Baths in Albuminuria

Bul. gén. de Thérap. (No. 4, pp. 188-189, 1897) summarizes the article of Carrière, of Montpellier, in *Cong. de Nancy*, August, 1896, in which he recommends hot-air baths before vapor or hot-water baths, because they fulfill two leading indications: the profuse sweating relieves the kidney; it gives regularity to organic exchanges.

The method is simple: A hospital bed is provided with a cradle to hold up the covers. Under this is placed an alcohol lamp with chimney leading out from under the bed. The air here around the patient, who has only his head outside the covers, is raised to 104° F. and kept so for twenty minutes. This is repeated every four days.

The immediate physiological effects are, an agreeable sense of warmth, a profuse perspiration accompanied by acceleration of pulse (20 beats or more) and a rise of temperature 1° or 2°. No ill effects except fullness in the head and palpitation in the first trials are observable. The effects on temperature, perspiration, and pulse keep up for an hour after the bath. The quantity of urine diminishes the day of the bath. The next day slight increase may be as much as 4000 c.c., the kidney apparently working better on account of the previous day's rest. The albumin is much lessened the second day, it increases later, but does not become as much as at first, and gradually lessens and disappears.

They are indicated in subacute and chronic epithelial nephritis. They are not suitable in cases with vascular congestion, with arterio-sclerosis, with much nervous disturbance, or with skin-lesions. H.

On the Combined Use of Narcotics and Hypnotics

In the *Deut. med. Woch.*, 1896, No. 37, Dr. Bresler, of Freiburg, insists that our knowledge of the numerous narcotics and hypnotics is not specific enough. As we know from embryological data, the different parts of the nervous systems are separate and have developed at different intervals, so it is true that drugs act upon the different parts of the nervous system with different intensities and at different rates; hence the need for a combination of quieting drugs. In anemic or exhausted conditions he would combine wine or beer with opium or chloral; opium he believes to go well with trional or sulphonal; while chloral and paraldehyd combined are not as valuable as either drug alone. J.

The Action of Suprarenal Extract Upon the Heart and Blood-Pressure

From a series of experiments made upon warm-blooded animals, Gottlieb, in the *Arch. f. exper. Pathol.*, XXXVIII; 99-112, concludes that the extract of the suprarenals increases the blood-pressure, and that this action is not due to any stimulation of the vaso-motor center, but is peripheral, acting directly upon the heart and the vessels. He also shows that in profound cardiac depression, due to chloral-poisoning, suprarenal extract markedly stimulates the heart and is an effective physiological antidote.

Its therapeutic use in chloroform-poisoning would also seem to be indicated.

The author concludes that the cardiac stimulation is due to the ganglia being acted upon and not the muscle-substance. J.

Hidden Dangers of Cycling

Dr. A. Shadwell, in *The Medical Age*, Vol. XV, No. 7, p. 200, points out some of the serious evils with which cycling is attended. Riding to excess is bad. There are several reasons why riders do not stop cycling when tired. Cycling as a fashionable craze is attempted by persons unfit for any exertion. Emulation stimulates to ride as far and as fast as some one else. Going to nowhere and back is dull; going to somewhere is attractive. Thus many attempt to ride beyond their physical powers. The ordinary propulsion of the machine demands amazingly little exertion compared with other forms of exercise. It is therefore fallacious to make bodily strength the measure of indulgence in bicycling and to rely on the sense of effort to indicate when to stop, as in lawn-tennis or walking, for instance, when the arm or the leg gives timely warning that the limit of "moderation" has been reached. In bicycle-riding it is the very absence of conscious effort, in the ordinary sense, that misleads the susceptible into "excess," unless they are warned to look out for a different kind of fatigue.

The writer further makes the interesting statement that to ride the wheel safely entails a double strain—a general one on the nerves and a particular one on the balancing center. The latter does not affect everybody, but it affects some very seriously. People differ in balancing capacity as much as in an ear for music or a gift for speech; and it costs some riders real and constant effort to keep their equilibrium. They show it by suffering from headache at the back of the head, where the balancing center is situated. The general strain on the nerves affects everybody, but some people "have no nerves," and therefore do not suffer. The naturally timid and anxious feel it very acutely. Apprehension works their senses up to a high pitch of tension, and puts a severe nervous strain upon them. Then certain persons are specially susceptible to the work thrown upon the optic nerve by the rapid succession of impressions received when moving quickly. Hence the headache commonly caused by looking out of the window on a long journey—"sick headache" or migraine. That is exactly the sort of headache many bicyclists complain of. C.

Fowl-Serum in Pneumonia

Dr. E. H. Martin, in the *N. Y. Medical Record* (p. 442, 1897), gives an account of a peculiar use of chicken and turkey blood with hot water as food in the treatment of pneumonia on the idea that these fowls are immune to croupous pneumonia. During a year's treatment he had not lost a case of pneumonia. His first case was one of double pneumonia in a man of 65 years, to whom he gave two ounces of fresh chicken blood in a half tea-cup of hot water every four hours. He would like to have hospital experiments begun on the same plan, and he would also like to be able to get a reliable fowl-serum to use by injection into the blood. H.

PEDIATRICS

Edward N Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Alcoholism in Children

In a paper read before the Moscow Pediatric Society Dr. Gorjaetrihxin expresses his opinion on the above subject as follows:

1. The occurrence of alcoholism (acute and chronic) in both childhood and youth is a fact which cannot be contradicted.

2. Alcohols of various kinds are frequently administered to children for a long period of time and often in large quantities.

3. The children are generally given alcohol for dietetic purposes, or as tonics, by physicians in the treatment of rickets, struma, etc. Children are often made intoxicated with wine, beer, or brandy by coarse or drunken company, even in intelligent families.

4. Physicians frequently order spirituous liquors to be taken continuously for a number of years under an erroneous impression that the therapeutic effects of alcohol are good.

5. In many cases the administration of alcohol for therapeutic purposes awakens an inclination for drink.

6. It has been proved that the benefit of alcohol in disturbances of nutrition and in chronic diseases is nil, and that the harm which may result through its continued use is marked. Therefore the prescribing of alcoholic beverages in such cases is not to be defended.

(We do not know how much alcohol in its various forms is administered to children by their parents without the physician's advice, but we are sure that some American physicians are too liberal in recommending it. Whiskey or brandy is almost a "Panacea" in the hands of general practitioners.)

O.

Colicystitis in Childhood

According to Dr. J. Trumpp, *Jahrbuch f. Kinderheilkunde* (Vol. XLIV, Nos. 3-4), colicystitis designates that form of cystitis which is produced by infection with the Bacterium coli commune (Escherich). The general symptoms accompanying this affection vary considerably. There is a moderate rise of temperature, restlessness, general malaise, considerable strangury, the urine is passed frequently and in small quantities, is cloudy, acid in reaction, contains often small quantities of albumin and pus. Microscopically it may be seen to be filled with short rods with rounded-off ends, lying either singly or in pairs, mostly free, but at the termination of the disease they are often found enclosed in the epithelial cells. The bacilli are stained with all aniline dyes and decolorized by Gram's method. At times the Bacterium lactis aerogenes (Escherich) is also met.

The duration of the disease is from one to two weeks, terminating, as a rule, in a complete recovery without further complications, if proper treatment is instituted early. Severe and neglected cases may cause, however, pyelitis, nephritis and uremic intoxication.

The treatment consists in emptying the bladder by means of a catheter and washing it with a lukewarm ¼-per-cent. solution of lysol, the quantity depending upon the dimensions of the bladder. The solution is left in the bladder for a few minutes by closing the opening of the catheter. The process is repeated once or twice. Salol, or, in severer cases, betanaphthol or naphthalin aa 0.5 gme. two to six times daily is administered internally.

The writer concludes that:

1. Colicystitis in childhood is not as rare a disease as generally supposed to be.

2. It is by far more frequently met with in girls, proving that it is due to a great extent to the direct entrance of the bacteria through the urethra. Its occurrence in boys and its frequency as a complication of intestinal diseases, especially enteritis follicularis, seem to indicate that the bacteria may enter the urinary tract also through the intestines.

3. Colicystitis may at times lead to severe general symptoms and by extension upward give rise to nephritis.

Urobilinuria in Infants

Dr. Giarrè (*Centralblat f. innere Med.*, Vol. XVII, page 800) concludes that:

1. In the urine of little children urobilin is absent in the normal condition or is found only in the smallest trace.

2. In the newly born and in infants at the breast urobilin is not found in the urine, while sterkobilin is found in the feces of those not nourished on breast-milk.

3. In the pneumonias of infants a marked urobilinuria is usually found without necessarily an increase of urobilin in the feces.

4. Icterus of the newly born is not, as a rule, accompanied by urobilinuria.

5. In children as well as in adults urobilinuria is found at the commencement and toward the end of a catarrhal biliary colic. Of diseases of the liver only those connected with gall-stasis lead to permanent and severe urobilinuria. Urobilinuria is absent in severe and extensive degeneration of the liver-cells (amyloid liver).

O.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Mental Disease (Not General Paralysis) Associated with Tabes Dorsalis

A paper on this subject was recently read by Dr. P. W. Macdonald and Mr. A. Davidson at the autumn meeting of the Southwestern Division, Salisbury (Eng.), as is reported in the *Journal of Mental Science* (Vol. XLIII, No. 180).

The object of the paper was not so much to relate anything that is new as to show that mental symptoms are not easy of classification when associated with organic changes in nerve-tracts outside the cerebral cavity.

While the authors do not question the general validity of the often accepted doctrine that general paralysis is, *per se*, the mental condition associated with tabes, they take exception to its infallibility, and by the aid of a most interesting case, show that you do meet with patients suffering from ataxia with mental symptoms amounting to insanity and yet not general paralysis.

The patient was a sailor, 49 years of age, and his symptoms were those of well-marked tabes. The mental condition on admission to the hospital was as follows: He speaks in a slow, drawling fashion, lost and wandering as regards dates, confused and broods over his "locomotor ataxy." When asked any question he invariably answers, "Locomotor ataxy." He is irritable and emotional, and cannot carry on a conversation.

For about three months the symptoms did not vary to any marked degree. The visual symptoms were very constant, and at times there was well-marked hemianesthesia. There was also diplopia. He was subject to fits of great irritability, followed by periods of emotion and absolute mental confusion. He suffered from auditory hallucinations. The physical condition improved until, three months after admission, he was suddenly seized with an epileptiform attack. He was sitting on a chair, and without any warning fell forward on the floor, bruising his nose. The attack was genuinely epileptiform: eyes, face and body were drawn to the right side, strong spasms of the right side, of the arm more than of the leg. There was much froth and he was quite unconscious. He continued having seizures at short intervals during the night and all the next day. Chloral was administered, but though the seizures ceased for a few hours, he showed no signs of rallying, and, after struggling in a semi-comatose condition for twelve hours, he died (forty-eight hours after first convulsion).

The autopsy is especially interesting and is as follows:

Section, twenty-four hours after death—Body well-nourished, post-mortem lividity and rigidity marked, limbs and chest elaborately tattooed.

Head—Scalp of average thickness, skull thin, diploë marked, inner table congested. Dura mater: Average thickness, congested, not adherent to the skull. Pia arachnoid markedly thickened and congested, more especially over the left hemisphere; no milkiness; stripped readily from cortex. Cerebro-spinal fluid in great excess, vessels at base healthy; lateral and longitudinal sinuses filled with red clot.

Convolutions—Numerous localized areas of atrophy over both hemispheres, more especially over upper Rolandic regions. Areas of atrophy well marked by little lakes of cerebro-spinal fluid.

General consistence of brain firm. On section gray mater thinner than usual and congested, left side more than right. White matter firm and congested. Vessels coarse. Lateral ventricle of normal size, no granulations, choroid plexus normal.

Basal ganglia congested; pons and medulla congested; fourth ventricle no granulations. Cerebellum: Pia uniformly congested, strips readily. Substance congested.

Spinal cord—Membranes slightly congested, sclerosis of posterior columns. Other organs healthy.

Sections were made through the cord in cervical, dorsal and lumbar regions. In every case the postero-median columns were found to be completely sclerosed and the postero-external in a varying degree in the different regions. In this sclerosed tissue were numerous colloid bodies. The arteriole walls were considerably thickened, more especially the adventitia and outer coats.

The chief interest in this case centers in the mental condition which is rare. The tabetic symptoms are of the ordinary type and pathognomonic of the disease.

Notwithstanding that the consensus of opinion is that general paralysis is the mental condition associated with tabes, in view of this case it certainly is not amiss to consider whether many of the so-called cases of general supervening on true and simple tabes should not be received with reserve.

Recently Dr. Hyslop had the courage of his convictions to question the accuracy of the present-day application of the term general paralysis, and the case above reported is one of those in which there is much need for a better understanding and clearer definition of mental symptoms simulating general paralysis.

There was in this case a true condition of mental enfeeblement and perversion mainly dependent on and of subsequent origin to the original disease in the spinal cord. There existed a state of irritability, low spirits, vague ideas of persecution, sensory disturbances amounting to actual delusions such as "people were injuring him," "that his food was poisoned," etc.

According to Marie and others epileptiform seizures are not an unusual termination of locomotor ataxia.

From the pathological standpoint, the case is very definite. On the post-mortem table, in the laboratory, and under the microscope there was plain and unmistakable evidence of tabes, but no evidence of general paralysis.

The cause of the epileptiform seizures is not without its interest, and was, in the opinion of the authors, due to the enormous excess of cerebro-spinal fluid.

It is evident in this case that slow progressive degeneration was proceeding *pari passu* in the cord and cerebrum, producing in the one case tabetic symptoms, and in the other progressive clouding of the mental faculties, but not taking the form of general paralysis of the insane.

Psychical Hermaphroditism

Distorted generic instincts play such an important rôle in the study of that class of people known as "neurotics," and is so little understood by the general practitioner that the article by Wm. Lee Howard, M. D., in the *Alienist and Neurologist* (Vol. XVIII, No. 2), will throw new light on the subject. "When this psychical condition is studied by the light of history we can congratulate ourselves that this vice, and often disease, is no longer a factor that can be admitted as a part of the nation's foibles or practices, or that it has any rôle in the life of the normal human being." Nevertheless sexual perversion exists to-day to a much greater extent than the general practitioner realizes. A proper understanding of this abnormal condition is of great scientific importance and medico-legal interest.

In considering this class a line must be drawn between the vicious, morally depraved, the male prostitute or any of that class which comes under police surveillance, and the unfortunate psychical pervert. It is certain that in sexual perversion we have to deal with well-defined pathological phenomena occurring under conditions that vary only in circumstances and environments, which have always existed in all countries and at all periods. Natural laws govern all the phenomena, from the first appearance of sexual life, through its various phases to decadence.

Dr. Howard differentiates between perversion, which is meant to include all abnormal sexual desires, and inversion is strictly applied to designate the love of one sex for another of the same sex, and says: "The invert and the pervert are to be found among the esthetic class. A marked feature of this anomaly is the precocity of the sexual instinct. Ninety per cent. of these abnormal individuals are engaged in artistic pursuits. They are found among the painters, musicians, poets, and writers of erotic fulmination. Among Havelock Ellis' thirty-three cases, two were physicians. Female perverts depart to a greater degree from the normal than do male. There are more female perverts than inverts. The practitioner, while he may have these cases of true sexual perversion in his office to be treated for some extraneous trouble, will not often be made the confidant of the pervert. The individuals are secretive, reserved, and obmutescent. As they recognize the fact that unless understood they will be avoided, shunned with disgust, and finally met with social dégringolade, it is not strange that their abnormality is seldom recognized except by those of similar psychical desires, and by the specialists with whom they are pitiably frank, honest, and hopefully confident. The genital organs of the pervert are almost without an exception normal in appearance and function. The condition of these individuals is a decided psychical morbid entity. Some of them do not realize that their passions, desires, and thoughts are abnormal. It is not easy to appreciate the rôle that external impressions and accidental environments have played in the individual development of these cases." Dr. Howard does not believe that true inversion is ever an acquired condition; it is congenital.

Treatment.—There is very little to be said regarding the treatment of the true sexual pervert. Drug medication in these cases is absolutely useless. Suggestion (with and without hypnosis), avoidance of surroundings which are apt to produce emotional feelings, such as music, art galleries or the theatres, and substantial and nourishing diet include all that can be done; and this only with the idea of keeping them free from vicious habits, and placing them in a condition of mental equilibrium, although they still remain psychically inverted.

SURGERY

William B. Coley, M.D., Jarvis S. Wight, Jr., M.D., David M. Stäbler, M.D.

Definite Results of Nerve-Extraction Done by Thiersch's Method

Angerer stated, at the twenty-fifth Congress of the German Surgical Society (*Rev. de Chir.*, No. 1, p. 53, 1897), that he has twenty-six times used this method; once when the spine was the cause, in all other cases in trifacial neuralgias. Seventeen were relieved of their pain; in the remaining cases there was improvement or return. The extraction of the nerve ought to be done more slowly even than Thiersch recommended. In this manner he removed as much as ten centimeters from the ends of nerves, together with their minutest ramifications. In trigeminal neuralgias he would remove the nerve-branches as well, though apparently intact, because the neuralgia is seldom limited to one nerve (4 in 25). Reunion is always by first intention, and there is scarcely any scar. Removal at first of the three trunks of the trigeminus notably lessens chances of return. If relapse should happen, intracranial extraction of the nerve and of the Gasserian ganglion must be done by Krause's method. Angerer employed it in one case with perfect result.

Helferich (Griefswold) supports Angerer and attaches great importance to the time employed in removing from the central end a segment as long as possible; also, he advises free isolation of the nerves in their osseous canals, closing the canals with bony tampons to prevent future reunion.

Krause (Altona) objects to the serious alternative of Thiersch's method in the resort to intracranial ablation of the Gasserian ganglion, and says that results are quite satisfactory from resection of peripheral branches, leaving room for further and higher resections, repeated, if necessary, in case of frequent relapses, reserving removal of the Gasserian ganglion as a dernier resort. Krause objects to Thiersch's forceps with transverse ridges to let slip nervelets. He employs forceps with longitudinal ridges so as to seize the nerve more completely and solidly. U.

Cancer Treated with the Röntgen Rays

According to the *Brit. Med. Jour.* V. Despeigues (*Lyon méd.*, December 28, 1896) states that after the appearance of his report of a case of cancer in which Röntgen rays appeared to have a good effect (*ibid.*, July 26 and August 9, 1896), he received a communication from L. Voigt, Director of the Vaccine Institute of Hamburg, giving an account of the following case: The patient was a man 83, who had complained for nine months of difficulty in swallowing and pain in the left ear, and in the occipital and cervical distributions of the left facial nerve. There was a small epithelial cancroid ulcer in the mouth, starting from the lingual fold, with an enlarged gland in the submaxillary region. Salivation was continual, and pain so severe as to require regular administration of morphine. On August 28, the application of Röntgen rays was begun with an apparatus yielding sparks of 10 CM., used in two daily sittings of one half and sometimes of a quarter of an hour; the pain almost immediately diminished so much that the morphine was discontinued, except an occasional dose at night to induce sleep. The patient was beginning to hope for a cure, but the disease invaded the left part of the tongue, salivation did not cease, and the difficulty in swallowing increased. The patient became emaciated, and died on October 22 of pneumonia after 100 applications of the rays, which gave him considerable relief. The good effect of the rays cannot be attributed to suggestion, as it lasted eight weeks, nor to destruction of sensory nerves, since these were not destroyed. The growth did not, as in Despeigues' case, diminish in volume. It may, however, be taken as proved that if the rays have little or no action on the evolution of the disease their anesthetic effect is very marked. It may be added that after the eighteenth sitting the skin of the left cervical region became almost as black as that of a negro; a similar pigmentation took place on the right side when the rays were directed upon that side.

Contribution to the Etiology and Operation of Desmoid Tumors of the Abdominal Wall

Dr. W. Kramer (*Arch. f. klin. Chir.*, Bd. 52, S. 34) says that although a number of hypotheses have been established at various times, regarding the etiology of these tumors, nothing definite is known. He then gives a detailed account of a case of congenital fascial desmoid in the abdominal wall of a girl 4½ years of age successfully operated upon by him, which report he thinks might lead to a somewhat better understanding of the development of the desmoids, which latter have hitherto been observed only in adults. Diagnosis in the case reported was: Sarcoma of abdominal wall, originating in one of the aponeuroses. The operative wound healed without any reaction. There was no recurrence and no ventral hernia up to date, nine months after operation. The cicatrix was perfectly sound.

Microscopic examination showed the tumor to be a spindle-celled sarcoma; no muscular fibres were found. From the fact (as was shown in this single case) that desmoids may be of congenital origin, he draws the deduction that the desmoids observed in adults may be due to some embryonal defect of development, and that pregnancy or expansion of the abdominal wall through other causes furnish a favorable condition for the rapid and sudden growth of the already existing desmoid germ.

The writer then turns to some important points in the operative technique concerning the treatment of defect of the abdominal wall caused by the extirpation of a desmoid. After the tumor is removed, he says, there remains a more or less extensive opening, which may cause a great deal of trouble. He then gives a full report of a case in which he succeeded in covering a great peritoneal defect by means of the serous membrane obtained from a hernial sac; the wound healed well. There was no necrosis of the hernial sac, and the patient was well 3½ years later without recurrence of the tumor and without hernia. He concludes by saying that while it may be rare to find such favorable conditions for a plastic operation (as he describes in the method he employed) he yet hopes that the method of operation used by him may be of interest to surgeons.

D.

Differential Diagnosis of Cerebral Abscess

In the *Fortschrit d. Medecin* (ref. *The Railway Surgeon*) Oppenheim emphasizes the difficulty of differential diagnosis in traumatic brain-abscesses, which may be confounded with traumatic meningitis, apoplexy, encephalitis, tumor, epilepsy, traumatic neuroses, etc. Cases cited proved how easily a one-sided traumatic apoplexy, or a hemorrhagic non-purulent encephalitis may, from symptoms alone, be taken for abscess. Oppenheim mentions a striking case in a boy, in which a wound on the forehead was followed by a slow pulse, optic neuritis, rigidity of the neck, etc. A diagnosis of frontal abscess was made, but puncture gave no pus. On the following day the pulse was 144, there were fever and unconsciousness, and rapid death. The autopsy showed a well-developed tubercular meningitis. The boy was ill before the accident. The traumatism merely gave an impulse to the development of the disease.

Suppurative meningitis occurring with an abscess is likely to be overlooked. An abscess of the brain is marked by normal or subnormal temperatures; fever is by no means a necessary symptom. If an attack begins with a rise of temperature, it is probably not due to an abscess of the brain —certainly not an uncomplicated one. A slow pulse is, perhaps, the most reliable single symptom. It is also well to remember that patients suffering from ear-troubles often become hysterical, and that a hasty diagnosis of hysteria, even if the typical symptoms are present, may falsely be made in cerebral abscess of otitic origin. B.

The Operative Treatment of Cancer of the Breast

This is the subject of the Ingleby lectures delivered by F. M. Burnett May, of Birmingham, England (*Brit. Med. Jour.*, No. 1899, 1269). The results of operations performed twenty years ago are compared with those of to-day.

Statistics published about 1878-1880 showed 50 per cent. of the cases operated upon recurred in three months, 85 per cent. in twelve months, and 90 per cent. of all cases were dead in two years. These statistics justified the then prevalent view that cancer was incurable. The operation almost exclusively performed at this time was simple excision of the tumor with a part of the breast, the axilla being never opened.

Mr. Moore, of Middlesex Hospital, is said to have first advocated excision of the entire breast, skin, fat, lymphatic glands, and more or less of the pectoral muscle, as early as 1867, but apparently no one operated upon these lines until Volkmann and Kuster, 1875-1880, urged systematic cleaning out of the axilla in all cases, whether the glands could be felt or not This method was soon universally adopted in Germany, but gained favor slowly in England. Gross advocated it in America, and did much to popularize it.

The mortality of these early operations was high, due chiefly to sepsis.

As to the modern methods and results, the writer states that he has had no mortality in seventy-six cases.

He does not believe in primary skin-grafting, better results being obtained if the grafting is postponed from eight to ten days later. As to the limitations of operative procedures he lays down some excellent rules.

"It is useless to operate in cases of wide skin-infiltration or scattered tubercles, as the most extensive sacrifice of skin cannot cure these." In some cases he believes it best to explore the posterior triangle of the neck and remove the glands, but not as a routine procedure.

Adopting Volkmann's three-year limit as the standard of cure, the combined statistics of Rotter, Helferich and Watson Cheyne show 42.17 per cent. of cures in sixty-six cases observed more than three years. These results show a steady improvement since those of Bellsoth in 1876, which had only 4.7 per cent. of cures.

May's own cases, ruling out the cases not traced, number forty-four. Twenty have passed the three-year limit; of these, seven are alive and well, two are alive with recurrence, and eleven died of the disease, giving 35 per cent. of cures. May very justly points out the fact that the three-year limit that has come to be universally adopted as determining a cure is by no means correct. He states that he has himself seen a recurrence eleven years after operation, and not infrequently the patient dies five or six years after operation. In discussing the methods of operation considerable attention is given to Halsted's. May believes the operation should be observed for "advanced cases where the muscles are infiltrated and the infrascapular and cervical glands enlarged, if indeed it is thought advisable to touch such cases at all."

He sees no reason for the fine distinction Halsted makes between "local" and "regionary" recurrence.

As to the widely diverse views regarding treatment of supraclavicular glands, May believes that if glands can be plainly felt above the clavicle there is no hope of cure, and the case is hardly suitable for operation.

It is a matter of grave doubt whether the more extensive operation gives sufficient additional security against recurrence to make up for the increased risk. It should be remembered that the majority of fatal cases die of *internal* metastasis, against which no operation can protect the patient.

May would regard as non-operable:

1. Large medullary cancers;
2. Scattered tubercles in the skin and edema;
3. Internal metastasis of all kinds;
4. Edema and solid enlargement of the upper limb. D.

A New Surgical Treatment of Basedow's Disease

Dr. Gayet (*Lyon méd.*, 1896) reports a new surgical procedure wihch he has employed in Basedow's disease. Extirpation of the thyroid gland or ligation of the thyroid arteries are both dangerous and unsatisfactory as to results. The cutting through of both (cervical) sympathetics the author regards as much simpler, and in the case in which he employed it, the results were remarkable: The exophthalmus disappeared immediately, the size of the thyroid became much smaller, the tachycardia and the tremor closed. There were no disagreeable sequelæ, except some hyperemia of the conjunctivæ and the ears, which passed off rapidly. M.

Intracranial Aneurism Treated by Ligature of the Common Carotid

The diagnosis of an intracranial aneurism during life is so rarely possible that the case reported by Dr. Roderick Maclaren (*Brit. Med. Jour.*, No. 1879, pp. 10) is of interest.

The patient, a domestic servant, was seen April 29, 1894, and reported that about seven weeks before she had been suddenly seized with pain on the left side of the head and in the left eye. At the same time she was aware of a rushing noise on the same side of the head. Very soon afterward the left eye felt weak and watery, and the eyelids swelled.

On examination the following condition was ascertained: The left eyeball was pushed forward, both upper and lower eyelids on the left side were swollen and edematous. There was congestion of the conjunctival vessels. There was almost complete paralysis of the external rectus of the left eye. The pupil was active; vision normal. The other movements of the eye were right. The fundus was healthy and the disc normal. On auscultating the cranium a loud systolic bruit was heard. It was audible all over the head and a short distance down the back of the neck, but was loudest over the left orbit and temple. When the left common carotid was compressed the murmur entirely disappeared; it was not influenced by pressure on the right common carotid. Her arteries everywhere else were extremely atheromatous. The heart was large and the apex-beat two inches to the left of the median line. There was a quantity of albumin in the urine. The inference from this combination of symptoms was that she had an aneurism of the internal carotid, pressing on the cavernous sinus, the sixth nerve, and the auditory nerve.

On May 8 the common carotid was tied. Improvement began at once, the bruit, of course, stopped immediately. Before night the edema of the eyelids was lessened. On the following day it was noticed that the eye was less prominent and the hearing was greatly improved. Two days after the operation the proptosis had disappeared; the edema and deafness were gone, and there was improvement in power of the external rectus. She was discharged from the hospital seven weeks after operation. The movements of the eye were then perfect; her vessels decidedly softer. The apex-beat was normal and there was no albumin in the urine. After the operation she had a farinaceous diet and 10 grn. of potassium iodide three times daily.

EYE, EAR, NOSE, AND THROAT

JOHN C. LESTER, M.D., HEBER N. HOOPLE, M.D.,
VINCENT GOMEZ, M.D., WM. C. BRAISLIN, M.D.

Acoustic Impressions During Chloroform Narcosis

While operating on a young man for an intestinal polypus, who was already well under the anesthetic, Berger (*La Méd. scient.*, No. 48, Dec., 1896) observed that creaking of a nearby door caused the patient to go into a state of collapse, thereby compromising, also, the final result of the operation. He seeks to explain this phenomenon by recalling the Carlo-Masso hypothesis, according to which, even during profound chloroform anesthesia, the nervous centers are not rendered insensible to intense peripheral excitation, a fact which seems to be proved by others observed in surgical practice.

Therefore, it must be remembered that the hearing greatly resists the sleep induced by chloroform, acoustic impressions being possible when all the other general voluntary and reflex acts are abolished. B.

Foreign Body in the Vitreous, Located by X-Rays

Dr. G. Oram Ring reports in the *Codex Medicus* (No. 4, Vol. III, p. 91, 1897) the location, by means of the Röntgen rays, of a piece of steel in the right eye of a shearmaker. Ten months after the accident he came to the hospital for treatment of the eye, which had already lost light-perception. He presented a linear scar passing upward and outward across the right side of the cornea, behind which was a slight depression in the ciliary border of the iris. The iris was but slowly responsive to light, though normally so to atropine. The lens was at this time transparent, the vitreous opaque, the fundus invisible, the tension subnormal and no conjunctival nor ciliary injection existed. The left eye was hyperopic, two diopters with vision 20-30. For several weeks after the accident the eye had been inflamed, but at this time Von Graefe's probe test elicited no positive point of tenderness, nor was the iris discolored brown, as in Hirschberger's test. The lens soon after became opaque, during which time (two months) three attacks of pain were felt in that eye, in the last of which ciliary injection occurred also in the left eye.

Dr. M. J. Stern at this period employed the X-Rays, and located the piece of steel "in or about the ciliary body." Preparations were then made to eviscerate in case the Hirschberg magnet should fail to withdraw the steel. Adhesions to the upper and outer portion of the ciliary body, where it had become surrounded by a large vitreous exudate, rendered the effort at removal futile. The conjunctiva was therefore dissected back to the equator, the cornea excised and the eye-ball eviscerated. The initial cut was made near the scar upward and outward to the sclero-corneal junction, and one corresponding to it on the other side of the cornea to make an opening large enough to admit a Mule's sphere, which was stretched in by means of catgut sutures and the conjunctiva with black-silk stitches, which were removed on the tenth day. Chemosis for three days was treated by ice-cold applications to the lids. The temperature did not rise above 99.4. Ultimate healing was only slightly delayed by granulation at the seat of ulceration of one stitch.

Orbital Sarcoma

Dr. Sattler read a paper on this subject at the Pan-American Medical Congress, held in the City of Mexico, on November 16, 17, 18 and 19, 1896 (*Arch. of Oph.*, January, 1897). Fourteen cases of malignant neoplasm of the orbit form the subject-matter of this contribution. Eight commenced as orbital growths and six took their origin from intra-ocular neoplasms. The author's conclusions are:

1. That sarcomatous disease of this locality was inflexible in its course and almost uniformly fatal in its termination.
2. That in exceptional cases only and when the growth is encapsulated early recognition of the nature of the disease, followed by immediate exenteration of the orbit may bring about its disappearance.
3. Radical operative treatment is therefore justifiable in these most malignant of neoplasms, only during the early stage and if an exploratory operation discloses an enveloping capsule. In many cases it only seems to excite an increase of activity. It is positively unjustifiable and harmful if practiced in the advanced stages of a rapidly growing tumor which has infiltrated the tissues and walls of the orbit.

The real origin here, as elsewhere, remains obscure.

The most treacherous neoplasms were those of sub-periosteal origin. These were characterized by an almost incredibly rapid course and without exception resented surgical interference and manifested more malignant and more rapid activity afterward.

More insidious so far as early manifestations are concerned but equally destructive and rapid during their later stages are glio-sarcomata of the globe. Unless speedily recognized and as speedily removed by enucleation they burst through the tissues of the orbit, infiltrate the other structures, and inevitably terminate fatally.

Less rapid in their course but none the less fatal are those which originate in the bones of the skull and adjacent sinuses and by extension infiltrate the cavity.

No time of life was exempt. In childhood and during the early adult periods it was found more frequently.

Five of the cases of glio-sarcoma occurred in children, the sixth, a melano-sarcoma, in a woman aged 60.

In the last case the diagnosis of intraocular sarcoma was followed at once by enucleation. No tumor could be discovered in the orbit, but in five months the entire orbit was filled with a soft, inky-looking sarcomatous mass.

In childhood and early life, an exceptionally rapid course was the invariable rule, an average duration of from three (3) to eight (8) months. During advanced life it was more protracted, extending in several cases over a period of several years. Radical surgical treatment was practiced in twelve out of fourteen cases and in every case without delay and in the most thorough manner.

B.

Degeneration of Retina from Fragments of Iron

Von Hippel presented a paper on this subject at the twenty-fifth meeting of the Ophthalmological Society at Heidelberg (*Ophth. Rev.*, January, 1897). In an eye which had to be enucleated thirteen years after injury, the author found the lens absorbed, the retina *in situ*, the vitreous shrunken, and three splinters of iron. Microscopically the retina was seen to be in a state of complete degeneration, the appearances having a close resemblance to what is found in retinitis pigmentosa. The case shows that the presence of iron in an eye may lead to complete degeneration of the retina without any detachment. Von Hippel has collected from the publication of other observers, fifty-one cases where particles of iron remained for a long period in eyes, and concludes that the presence of a piece of iron in the posterior portion of the globe may lead to blindness, after a long interval of time, in four ways: (1) By shrinking of the vitreous and detachment of the retina; (2) by acute inflammation; (3) by a localized affection of the macula; (4) by complete degeneration of the retina without detachment. The fatal result is delayed if the foreign body happens to be encapsuled. As an early symptom of retinal degeneration, Von Hippel lays stress upon the presence of hemeralopia, by which he understands night-blindness.

Cryptoglioma Retinæ

In a paper with above title (*Centrabl. f. prakt. Augenheilk.*, XXII, p. 130, ref. by *Arch. of Oph.*) Schöbl designates by the term cryptoglioma such cases as are really glioma, but in which the clinician is unable to make a correct diagnosis. It is the opposite condition to pseudo-glioma in which one of several less important conditions is mistaken for true glioma. The main difficulty in diagnosing is when, in the second or inflammatory stage, instead of glaucoma, irido-cyclitis comes on, leading to transient phthisis. The cases reported by Schöbl are classic. In one case he diagnosed irido-choroiditis purulenta partialis chronica tuberculosa oculi dextri and granuloma tuberculosum carp. ciliar. penetrans in cameram anter. oculi sinistri. and nevertheless the case proved to be one of glioma. From his extensive experience Schöbl comes to the conclusion that in the development of cryptoglioma two factors work together, namely, an indirect inflammatory process of the uveal tract and a special inclination of the neoplasm to early and extensive metamorphosis. The chief clinical pictures that cryptoglioma simulates are three: (1) plastic iridocyclitis, with occlusion of the pupil; (2) chronic panophthalmitis; and (3) tuberculosis of the ciliary body or choroid.

B.

On Injuries of the Eye, Caused by Firearms

This is the title of a contribution concerning this subject by Tornatola, in *Arch. di Ottalin.*, III., 11-12, p. 350. In 21 cases of perforating shot-wounds of the eye the author has seen systematic ophthalmia only once. This he thinks due to the antiseptic treatment of the small wound, and to the fact that shot fired from a gun are aseptic, although shot as found in the shops are always infected with microbes, and frequently the author was able to obtain from them cultures of the staphylococcus albus. In experimental shot-wounds in the eyes of rabbits and guinea-pigs the eyes retained their form and tension in eight cases out of ten when the eye had been disinfected before the injury, and the wound subsequently treated antiseptically. But of 20 eyes similarly injured when no such treatment was instituted, 14 became phthisical from irido-choroiditis, 5 suppurated, and but 1 retained its normal appearance.

B.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D., HOMER E. FRASER, M.D.

New Treatment of Syphilis

Quinine iodohydriodate, $C_{20} H_{24} N_2 O_2$. I. H. I. occurs as a brown powder, insoluble in water, but soluble in alcohol. This salt has been known for a long time, but the results recently obtained by Assaky (*Therap. Wochensch.*, IV, p. 279) in secondary and tertiary syphilitic affections have been so excellent as to warrant their mention. A daily dose of 2-5 gme. exerts a decidedly favorable effect on these affections, in so far as the local and general symptoms are caused to disappear in a comparatively short time. Iodism is never observed, but at times quinism appears, particularly in patients specially subject to it. The remedy is prescribed in pill form, as follows:

Quinine Iodohydriodate	10 gme.
Kaolin	2 gme.
Mucilage Acacia.........	to make 80 pills.

Sprinkle with powdered talcum.

Dose: Two pills every quarter of an hour in morning until from 16 to 20 pills have been taken.

F.

Communicability of Parasitic Scalp Diseases by Means of Hats

Dr. Myles Purvin, of Brooklyn, N. Y., in a communication to THE AMERICAN MEDICO-SURGICAL BULLETIN, states that while purchasing a hat in a large store he observed a child suffering with a parasitic disease of the scalp, trying on many hats before selecting the proper one, thus proving that the hat is a common vehicle for conveying parasitic diseases of the scalp from child to child.

The warm weather is an important factor, for it assists in favoring the development and growth of the parasites. V.

Does Lupus Erythematosus Ever Attack the Mucous Membrane?

Dr. Leslie Roberts, in *Brit. Jour. of Derm.*, May, 1897, reports the following case:

A lady, 45 years of age, consulted him on account of a circumscribed patch on the lower lip, which had lasted for eighteen months. There were no subjective symptoms except soreness. On first observation it was decided that the disease was lupus erythematosus; the red patch was pear-shaped, and its upper margin was lost in the mucous membrane of the lip; the lower edge was raised, and of a brighter color than the dull red hue of the interior. The surface was not covered with sebaceous crusts; strong illumination disclosed a few fine scales but no signs of atrophy. The surface appeared somewhat pitted; the orifices and follicles did not gape. The epiderm covering the lips was dry and cracked. The course of the disease was very slow, and the patch did not appear to extend. Destructive agencies, such as electric cautery, electrolysis and acid mercuric nitrate, appeared to have no special effect on the disease, except, possibly, to arrest its progress.

Dr. Brooke, of Manchester, concurred in the diagnosis of lupus. S.

Cutaneous Horns, with a Report of Several Cases

Dr. J. A. Cantrell, giving the history in detail of four interesting cases of cutaneous horns (*Derm. Coll. and Clin. Rec.*, June), states that these may develop to enormous magnitudes, there being no difference in growth other than the extent to which they have progressed. Cases have been recorded wherein this peculiar transformation has reached the growth or length of almost that of some of the lower animals. The condition, which is a corneous transformation, usually of some warty growth, is caused by the multiplication of the rete-cells at the site of origin, and is not, as some have thought, to be in any manner connected with the osseous system.

One case referred to occurred in a man approaching 70 years of age, in which a similar horn had grown directly upon the same spot several times. Each time the growth was removed, but returned several years subsequent to each operation. The growth, as presented at the clinic, was observed upon the right lower eyelid near the outer angle. From its base to its summit it measured two inches, tapering and curving as it ascended. It presented all the characteristics of a horn. Upon taking hold of the growth it could be drawn to some distance beyond its attachment, thus showing that the skin alone was affected. The growth was removed after the parts were frozen with rhigolene; caustic potash was then applied, allowing its action to extend to some distance beyond the affected area, because of the fear that, at his age, the condition might have a tendency to epithelial degeneration. The growth was removed about six years ago and there has not been the slightest return of the condition.

A second case referred to had a growth one and one-quarter inches in length, situated upon the right cheek, the patient refusing to have it removed, fearing ultimate consequences, which she said she had seen in the case of another woman, in which probably an epitheliomatous degeneration resulted. Along the shaft of this horn the substance was striated longitudinally, while at the tip and base these striæ were transverse. Another peculiar feature of it was, that at and from the base were noticed three ridges which were raised somewhat from the horn proper and which, according to the patient, numbered the years of its existence. The growth was considerably roughened, and could be drawn to some distance beyond the skin, similar to the foregoing case. Examination, futhermore, showed it to be entirely superficial. Because of the arrangement of the ridges at the base the author considers this case unique. L.

The Management of Buboes, The Result of Chancroids

Dr. C. Travis Drennan (*Med. Mirror*, Vol. VIII, No. 7) formulates the following conclusions, viz.:

1. When the patient presents himself within the first few hours of lymphadenitis, abortive treatment naturally suggests itself—absolute rest, saline cathartics, and continuous application of heat.
2. If at the end of thirty-six hours no improvement manifests itself, the gland or glands should be enucleated under strict antiseptic precautions.
3. When the patient has signs of pus-formation, tapping the abscess under antiseptic precautions and washing it out with from 1-3000 or 1-4000 bichloride solution will usually be followed by good results.
4. If the skin is thoroughly devitalized or abscess has ruptured of its own accord, and sinuses are formed here and there, open boldly in the line of Poupart's ligament, slitting up wherever sinuses are found; enucleating thoroughly all swollen glands, curetting and removing all necrosed tissue, washing out wound with pyrozone, followed by 1-3000 bichloride solution, packing thoroughly with iodoform gauze, application of absorbent cotton to the parts, and spica-bandage. V.

A Technical Point in Electrolytic Epilation

From the *Bul. gén. de Thérap.* (No. 4, pp. 189-190, 1897) the following by Dubrenilh, in *Soc. fra. de Derm. et de Syph.*, av. 1896, is abstracted:

However well epilation is done, some hairs will have to be treated again, sometimes from the fault of the operator, often on account of a particular anatomical condition. The latter is the point in question. When a hair attains its full growth its papilla atrophies, its bulb is transformed into a globular button hard and horny, and it is gradually forced by the retraction of the follicle near to the orifice of the latter, where it remains until it is replaced by another hair formed in the bottom of the same follicle. It does not elongate. It is implanted but a little more than a millimeter in depth; but it is as adherent as a living hair held in position by its hardened epithelial sheath.

It is so hard as to be almost impenetrable by the electrolytic needle; in fact, the needle goes but a little depth as compared with the neighboring follicle. After the current the hair is pulled out only with difficulty. If the needle slips past the hard hair and pushes into the skin it will equally leave this particular follicle unelectrolyzed, except only the dead hair on it.

There is no use in electrolyzing dead hair bulbs. The dead hair can be recognized by one sign only, the swollen end in the bulb-cavity, which ceases as soon as the papilla is atrophied.

The author cuts all the hairs alike, leaving them a few millimeters long one or two weeks before epilation. Then he electrolyzes only those that have grown in the interim. But he pulls out the dead ones, and a few weeks later finds the new hair, which may then be treated. The younger it is the easier it is to destroy. H.

Melanosis Accompanied by Moderate Acanthosis

Dr. Roberts, in *Brit. Jour. of Derm.*, May, 1897, reports the following case:

The patient, who had been perfectly well until two years previous, was a sailor, and served as a steward; the ship was wrecked, he and a fellow mate were saved by clinging to a boat ten days; during this time his legs had been constantly in the water. He apparently recovered from the accident, but in a few months was surprised to find both legs swollen, the skin appeared normal. Treatment and rest reduced the swelling, which was followed by slowly increased pigmentation of the skin. The legs resemble those of a negro; the skin pits slightly on pressure and shows slight desquamation in parts. The pigmentation did not extend beyond the legs.

At first the disease was considered simple melanosis, but microscopic examination showed that it might possibly belong to the group of acanthosis nigricans. Very little is known of this disease, the original examples were published by Janovsky and Unna. Unna's case ended fatally from anuria and heart-failure, and as in Janovsky's patient, the melanosis was associated with papillary and warty growths affecting both the skin and mucous membrane. S.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

Eclampsia

In an article appearing recently, Drs. J. A. Clark and L. L. Kelton (*Char. Med. Jour.*) consider some of the causes of eclampsia. The review of literature on the subject shows that the causes are not well defined, but the weight of opinion ascribes to some blood-poison the etiological factors. More attention has been given to the kidneys than they deserve, and this has to some extent diverted investigation from other most important points. There is positive evidence that eclampsia may be present with healthy kidneys. Two cases are given in detail, which came under the care of the authors—one in which violent and nearly fatal eclampsia occurred in a woman, where previous urinalysis failed to detect casts, albumen or deficient solids, when a nephritis developed after the eclampsia, and grew worse after the eclampsia subsided, but with good recovery finally.

Second, a case with 100-per-cent. albumen, casts and renal insufficiency, but which went through confinement without the least sign of convulsions.

In case one, acetone was found in large amount. The conditions under which acetone appears gives a clew to the cause of eclampsia. Its presence in leukocythemia, diabetes, inanition and puerperal infection indicate that it is the result of rapid katabolism. Retrograde nitrogenous change gives nerve and allied bodies as end products, and this is accomplished by the liver-cells, but this is only one side of katabolism, the other is the changes resulting from the carbohydrate moiety; this is also accomplished by the liver-cell, but is eliminated not by the kidneys, but by the bile.

When the child and mother send too much waste product to the mother's liver, there occur an acute degeneration and inflammation of the cells, with retention of materials, which quickly break up into others, among them being eclamptic poison and acetone. This accounts for the known pathological changes following eclampsia of acute atrophy and the marked deficiency of bile.

The results of investigations are thus summarized:

1. The theory that eclampsia is primarily a renal disease in all cases is untenable.

2. That eclampsia can be prevented by attention to the renal secretion, or that urinalysis furnishes adequate information on which to base an opinion of the safety of the patient is likewise untenable.

3. The poison of eclampsia is obtained from retrograde tissue-products from fetus and mother, and depends upon insufficient action of the liver; the non-nitrogenous moiety being the chief factor in those cases not accomplished by renal inflammation.

4. In those cases, where uremia is present, attention to the liver will compensate for renal insufficiency.

5. That nephritis which attends eclampsia is frequently secondary, and is analogous to the nephritis of scarlatina.

6. The presence of acetone is a natural effect of the changes going on and the exact relation of acetone is not yet made out—it may be only a by-product. Acetone may prove of some value as a prognostic and diagnostic aid. B.

Ectropion of the Cervix in Nulliparæ, Resembling Laceration of the Cervix

Charles P. Noble (*Amer. Gyn. and Obstr. Jr.*, Feb., 1897) cites two cases of the foregoing that have recently come under his care, the patients being nineteen and thirty-five years of age, respectively. The diagnosis of laceration of the cervix carrying with it the presumption of an antecedent pregnancy unless it can be definitely shown that the cervix has been torn by operative treatment, it is of medico-legal importance to render the diagnosis of this condition as exact as possible, and at the same time to recognize all possible sources of error arising from other conditions which simulate a laceration.

The two cases are reported in detail because of their medico-legal importance. In one case, examination and inspection showed well-marked ectropion, simulating a laceration of the cervix, accompanied by a mass attached to the anterior wall of the cervix and projecting into the os uteri, this mass consisting of a much-hypertrophied anterior column of the arbor vitæ. A superficial examination might readily have led to an erroneous diagnosis. In the other case, upon examination by touch, a patulous external os uteri was felt with apparently a bilateral laceration of the cervix. Upon inspection, a well-marked ectropion of the cervix was seen to exist, the appearances being also highly suggestive of a laceration of the cervix. No scar-tissue, however, could be seen or felt in the angles. Both the anterior and the posterior columns of the arbor vitæ were greatly hypertrophied, projecting into the external os uteri, being crowded alongside of each other and giving the external os an irregular outline instead of the usual transverse slit. The treatment in both cases was alike, dilatation and curetting, with amputation of the cervix, thus restoring the parts to approximately their normal condition, and followed by the relief of symptoms and restoration to health. The question of possible pregnancy was investigated in each case, with the result that the author was satisfied that they were nulliparous. The etiology of the ectropion in these cases was obscure. The condition may have been congenital in origin, although there was well-marked pelvic congestion in each, thus offering a possible explanation that this pelvic congestion caused a simple hypertrophy of the mucous membrane of the cervical canal, followed by ectropion.

Commenting upon the above cases, the editor of the *Am. Gyn. and Obstr. Jr.*, in an editorial, cites a case of apparent laceration accompanied by hypertrophy of the cervix, and an extensive cellulitis existing behind the uterus, in a virgin, in the practice of Dr. T. A. Emmet, in 1880, which yielded rapidly to treatment, the everted surfaces rolling in gradually as the inflammation lessened, and at the end of three months the cellulitis cleared up, a virgin os remaining. The editor, therefore, does not agree with Dr. Noble in the advisability of operation, unless amputation be a necessary procedure.

The Operative Significance of Metastasis and Post-Operative Recurrences in Carcinoma of the Uterus

Dr. W. W. Russell, in *Am. Jour. of Obst.* (p. 851, 1896), lays special stress upon the anatomical course of the lymphatic vessels of the broad ligaments, dividing them into three groups: (1) Those corresponding to the uterine artery and its branches and supplying the upper third of the vagina and cervix; the glands connected with this group lie at the base of the broad ligament and at the dividing point of the iliac vessels. (2) Those supplying the greater portion of the uterine body, running along the upper surface of the broad ligament with the ovarian vessels, and terminating in the lumbar glands about the level of the lower border of the kidney. (3) Those arising in the uterine cornu and passing out into the round ligament to the inguinal glands. He draws the following practical deductions from his cases: 1. Cancers of the vaginal portion tend to advance on the vaginal walls; they are usually epitheliomata and have little tendency to metastases. 2. Growths of the cervix are usually adenocarcinomata; they must be considered the most malignant of uterine cancers, and tend to spread into the parametrium and bladder. 3. Adeno-carcinomata of the body are the most accessible to operation and give the best results. 4. Hysterectomy for fundal cancer should include an extensive removal of the broad ligaments, tubes, ovaries and round ligaments. O.

Some Considerations Upon Uterine Curettage in Gynecological and Obstetrical Practice

In a paper read before the second Pan-American Medical Congress, and published in *Revista de Anat. Patolo. y Clin.* (April 1, 1897), Dr. Alberto Lopez y Hermosa says that among the most brilliant and successful of gynecological operations, is the uterine currettage, invented by Recamier for the treatment of fungous endometritis, and now used in the treatment of diseases of the endometrium, whether organic or inflammatory in nature.

The indications for its use are: (1) Hemorrhagic endometritis, in which it is a specific. (2) Catarrhal endometritis. (3) In the gonorrheal form, combined with cauterization of the raw surface and followed by permanent irrigation with 1-4000 potassium permanganate. (4) As a palliative in uterine cancer when hysterectomy is contraindicated.

In this formidable disease its beneficial effects are shown by the diminution or stoppage of the two chief evil agents, namely, hemorrhages and fetid leucorrhea. As a consequence, the general condition of the patient is improved, at least for a time. (5) In the symptomatic metrorrhagias of uterine fibromata, due to the accompanying endometritis, it is the most effective means of checking hemorrhages when they have not been relieved by other means.

Encouraged by these results, curettage has been advocated in the treatment of puerperal septicemia by such men as Aubard, Tarnier, Ribement, Lepage, Charles, Pinard, etc., but without attaining any of the good results obtained in gynecological practice.

The writer strongly believes that uterine curettage is a useless procedure when applied to the treatment of puerperal septicemia, and he further states that it is a dangerous procedure in the majority of such cases.

Bumm has divided puerperal endometritis into three groups: (1) Putrid endometritis, in which the superficial layers are necrosed by the putrefactive bacteria. (2) Septic endometritis in all its forms—purulent, membranous, or diphtheritic. As in the preceding group, the mucosa presents a superficial necrotic layer, but which contains staphylococci and streptococci, and under this layer we find a zone made up of round cells, which protects the subjacent tissues against microbic invasion.

These two groups rarely constitute local manifestations of puerperal infection.

In the third type the metritis is almost unnoticed, the general infection chiefly attracting the physician's attention. In this condition no limiting zone is present, and the infecting germs enter the system through the lymphatic and venous trunks.

In view of these facts, is it logical to accept the uterine curettage as systematic treatment of puerperal infection? The author answers this in the negative. Because while it is true that one is tempted to remove the infected membrane and likewise the focus of infection, it so happens that the protective zone is also removed. To destroy this protective layer is equivalent to inviting the entrance of the Streptococcus pyogenus, thereby making general what was a localized infection.

The writer does not advocate the removal of clots from the utero-placental sinuses, because the employment of the curette in such cases is liable to carry with it noxious germs.

The author concludes that uterine curettage is not a rational method of treating puerperal septicemia. B.

Incomplete Abortion—Treatment of

The removal of the secundines by means of curette without dilatation of the cervix is, according to Dr. Abel (*Aerztliche Praktiker*, Vol. X, No. 9, 1897), an unsurgical, unsafe and dangerous procedure. The surgeon is acting blindly, and is liable to perforate the uterus, or to leave the parts of the placenta in the uterus, after even repeated scrapings. He therefore strongly recommends dilatation of the cervix and digital evacuation of the uterus. He dilates the uterus by means of a tampon of iodoform gauze, under strict aseptic precautions. As the marketable gauze is hardly ever sterile, he advises a thorough sterilization previous to its employment. The tampon is left in the vagina for about twenty-four hours, when the cervix is usually found dilated to permit the introduction of the finger; otherwise a new tampon is used. After a careful removal of all foreign material from the uterus, its walls are washed, by means of a cotton swab, with a 5-per-cent. solution of carbolic acid. This is followed by a hot vaginal douche. Ergotin may be administered for the next few days.

Having tested about 200 cases with this method, the author feels justified in recommending it very highly. O.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Infective Venereal Tumors in Dogs

At the April, 1897, meeting of the Pathological Society of London, Mr. G. B. Smith and Dr. J. W. Washburn described (*Brit. Med. Jour.*, April 10, 1897) a series of infective tumors occuring on the genitals of dogs. A dog affected with a tumor on the penis served twelve bitches, of whom eleven became infected. Three of these bitches were then served by a second dog, which subsequently developed a growth on the penis. After becoming infected this second dog served two healthy bitches. One of these bitches developed a growth in the vagina, while the other remained unaffected. A dog which was artificially inoculated on the penis developed a growth similar to those of the above series. The tumors commenced as minute translucent papules, which grew slowly, and at the end of about twelve months were converted into lobulated masses. At a late stage the vagina might be filled with lobulated masses which protruded from the vulva and distended the perineum. In the majority of cases there was no deep induration, and the tumors were readily removed from the subjacent structures with the mucous membrane to which they were attached. In two cases in which a post-mortem examination was made there was infiltration of the muscular wall of the vagina, and in one of these cases the lymphatic glands in the groin were affected. The microscopical structure of all the tumors examined was identical. It consisted mainly of cells of a rounded or polyhedral shape—in the latter case giving at first sight the impression of an epithelial new formation. A careful examination, however, proved that the cells were not derived from epitheleum. The stroma varied considerably in different growths, being sometimes scanty and sometimes abundant. In the latter case the cells were enclosed in irregular alveolar spaces. There was nothing in the microscopical appearance of the tumors to distinguish them from the sarcomata met with in the human subject. The tumors were not due to irritation produced by the discharge; in fact, in the majority of cases there was no discharge whatever, either at an early or a late stage of the disease. There was no tendency to spontaneous cure, but when the tumors were removed at an early stage they did not recur. Attempts to infect rabbits and guinea-pigs failed. In two cases the tumors were successfully transplanted to the subcutaneous tissue of dogs. In conclusion, the authors gave reasons for believing that the tumors were of a similar nature to those described by Geissler, Wehr, Duplay, and Cazin in their work upon the infective nature of cancer. B.

Neisser's Gonococcus—Staining of

Drs. L. Peck and J. Jacobson (*Aerzt. Prak.*, Vol. X, No. 7, 1897) recommend the following preparation:

Distilled Water	20 gme.
Carbol-Fuchsin	15 drops
Concentr. Alcohol. Sol. of Methyl-Blue	8 drops

Stain for nine to ten seconds: The gonococci appear dark-blue, the cell-nuclei light-blue, the protoplasm and mucus, bright-red. The solution is renewed, after a few weeks, by the addition of a few drops of carbol-fuchsin. O.

On the Bactericidal Action of the Waters of the Jumna and the Ganges

The reason that the cholera spirillum, in its native home, does not create more havoc than it does, is explained by an interesting note by Hankin (*Annales de l'Institute Pasteur*, 1896, 11). He states that the waters of the Jumna and the Ganges are germicidal in their action on account of small amounts of free acid found therein. Direct experimentation with the Jumna water showed that two hours after inoculation, the organisms were dead, while boiled surface-waters or well-waters proved excellent media for the growth of the cholera organisms. J.

Specific Reaction of the Serum of Patients Suffering Cholera or Enteric Fever

On experimenting with the blood-serum of cholera and typhoid-fever patients, Dr. R. Kraus (*Medical Week*, Vol. V, No. 20) found that, if cholera serum be added to a culture of the cholera bacillus sterilized by filtration, and typhoid serum to a similarly sterilized culture of Eberth's bacillus, at a temperature of 37° C., these cultures after a while will become cloudy, after which a finely flaky precipitate is formed, and above this there is a perfectly limpid fluid.

The precipitate obtained in this manner in cultures of the cholera bacillus has been examined in the laboratory of Prof. Freund. It is composed of two proteid bodies, one of which gives the reactions of alkaline albuminates, the other those of peptones. These substances are probably secreted by the bacilli, though this is only a hypothesis which must be tested by further experiments. In filtered cultures of Löffler's bacillus the author has never been able to determine the formation of any precipitate by the admixture of diphtheritic blood-serum, even in large quantities.

It appears, therefore, from Dr. Kraus' researches in this direction that, by mixing blood-serum of patients suffering from cholera or typhoid fever with sterilized cultures of the respective bacilli of these affections, precipitates are obtained which are fully as pathognomonic as the agglomeration phenomena observed in living cultures of the bacilli of cholera and typhoid fever. B.

Malignant Chronic Endometritis

The above is the title of a paper read before the Philadelphia Pathological Society, October 22, 1896 (*Inter. Med. Mag.*, April, 1897), by Dr. J. M. Van Cott, Jr. The average surgeon is not aware of the difficulties to be overcome by a microscopist in the successful examination of material dispensed to him by the surgeon's hands; for the reason that he is too heavy to become proficient in laboratory methods. But, assuming that material be furnished for examination in proper preservation, and from the right location, is it possible to find this condition with any degree of certainty *intra vitam* by means of microscopic analysis of the products of the curettage?

The writer puts the question thus: (1) Can the diagnosis be made microscopically? (2) If so, can it be made before widespread adenomatous change has occurred? (3) If the microscope alone is incompetent, is there any combined method by means of which reliable results may be looked for? After six years of observation, the author believes that the microscope alone is not competent to determine the diagnosis of this form of malignancy *in utero*. While a great deal may be determined regarding the given case in point of the hyperplasia, the rapidity of cell-proliferation, and the presence or absence of adenoma; it may be impossible to say whether or not the process is a superficial one, or already deep-seated, involving the inter-muscular septa of the metrium.

Certainly the presence of mitosis, while it proves actual proliferation of cells, will not show in curettings the location of the hyperplasia, nor will the general facts concerning the cells in their relation to each other do it.

Dr. Van Cott's observation has extended over about a half-dozen cases in as many years of pathological work in three hospitals in Brooklyn; and in one only of the six was he able to complete the investigation by examination of the enucleated organ. This statement is made for the purpose of emphasizing the author's belief in the comparative rarity of the cases.

Notwithstanding the difficulties and often impossibilities in the way of forming any kind of reliable conclusions from the examination of uterine tissue removed for the purposes of diagnosis, it is nevertheless the duty of the pathologist to "stand by his guns" in such cases, in the hope of discovering and possibly routing the enemy.

After mature deliberation the writer's personal belief is that the diagnosis of endometritis chronica malignans cannot be positively made in the present state of our knowledge by means of the microscope alone; but that with the combined microscopic examination of the curettings and a good clinical history it can be determined. B.

Upon Actinomycosis of the Tonsils

H. Ruge, in the *Z'tschf. f. klin. Med.*, XXX, p. 529, reports four cases of disease of the tonsils in which a fungus resembling actinomycosis was found. The organisms were found always in the crypts of the tonsils, never in the tissue, and differed from true actinomycosis hominis in that the club-like bodies were not swollen at the ends and that the contained granules were larger and moreover the color-reactions varied somewhat. J.

The Structure and Origin of Glioma of the Retina

After a short review of the work of previous investigators of glioma of the retina, Greef (ref. in *Deutsch med. Woch.*, 1896, No. 21, p. 327), by using the Galgi-Cajal methods, comes to the following conclusions:

Glioma is a tumor which has its origin from misformation of some of the retinal elements. It consists essentially of a hyperplastic increase of neuroglia-cells and their dendritic process and also newly developed nerve-cells and processes. He suggests the name neuroglioma ganglionare. J.

The Bacteriology of Epidemic Cerebro-Spinal Meningitis

An editorial in the Boston *Med. and Surg. Jour.*, April 15, 1897, says that meningitis may be caused by a variety of organisms of which the most common are the tubercle bacillus, the Staphylococcus pyogenes aureus, the Streptococcus pyogenes and the Micrococcus lanceolatus, this last being the one most usually found in sporadic and endemic cases of acute cerebro-spinal meningitis. It has been generally assumed that the epidemic form of this disease is also due to the Micrococcus lanceolatus. Positivism is not the dictum as yet in this respect. In 1887, Weichselbaum, of Vienna, reported six epidemic cases in which he found a germ named by him the Diplococcus intracellularis meningitidis. Little attention was paid to this until Jaeger, in the *Zeitschrift für Hygiene*, 1895, reported ten epidemic cases in all of which he found the same organisms. This Diplococcus intracellularis meningitidis resembles the gonococcus morphologically, in its situation usually within pus-cells, and in its reaction to Gram's method of staining, but differs from it in growing on ordinary culture-media and in being virulent for animals when properly inoculated. It differs from the Micrococcus lanceolatus in form, in the lack of a capsule, in its reaction to Gram's method of staining, and in the fact that it is not virulent for animals when inoculated subcutaneously, but only when injected into the pleural or peritoneal cavity. The medical profession of Boston is much interested at present in its investigations of an epidemic of cerebro-spinal meningitis prevailing at present. Fluid is obtained by lumbar puncture, which if made in the early stages of the disease gives multitudes of organisms. While it is yet too early to give a report of the results obtained at the different hospitals, it would nevertheless seem from bacteriological examinations made thus far that certain epidemics of this disease are not due to the Micrococcus lanceolatus, for in nearly all cases examined bacteriologically the Diplococcus intracellularis meningitidis of Weichselbaum has been found. P.

On the Morbid Anatomy of Leprosy of the Nerve-Trunks

Dr. J. C. Kellogg, in St. Louis *Med. and Surg. Jour.*, considers the question of the leprous bacilli in the nerve-trunk, and concludes:

1. It is a remarkable fact that by far the greatest number of all colonies of bacilli are found on the nerves, and not in the interfascicular connective tissue, and least of all within the latter's very defectively endowed cells. There are no signs of a reactive increase of the fibrillary connective tissue.

2. In opposition to Lee, the bacilli have not been found to immigrate into the atrophying nerve-tubes that have lost their medullary substance, but simply rest upon them.

3. The signs of pressure in the nuclei are explained quite as readily by an extraneural localization of the augmenting colonies as by an intra-neural one.

4. The "besondere lang gestreckten" cells described by some observers are not to be found. J.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.,
DAVID M. STÄBLER, M.D.

Tannalbin in Intestinal Troubles

Dr. Treumann, of Nürnberg, states (*Münch. med. Woch.*, XLIV, p. 475) that he has used tannalbin for some time in catarrhal conditions of the intestines, both acute and chronic, in catarrhs due to obstruction, and in the diarrhea of tuberculosis. In the majority of cases excellent results were obtained. The tannalbin was at first given in doses of 0.5 gme. (8 grn.) three to four times daily, and increased later to 1 gme. (15 grn.). No disagreeable by-effects were ever noticed, not even when very large doses (10 gme. per day) were given; nor were any disturbances of the gastric functions or appetite ever observed. In almost all the cases, after a few doses, the dejections diminished in number and acquired greater consistence, while at the same time their mucous content was reduced. Its corrective effects were more particularly noticeable in chronic forms of intestinal catarrh, including the dysentery of phthisical patients.

In the treatment of children's diseases the remedy is a particularly valuable one, especially in catarrhal diarrheas, including those of nurselings, owing to the tastelessness of the preparation as well as to the fact that it is unnecessary to resort to opium so freely. Children 1 year of age were given 0.1 gme. (1½ grn.), and older children 0.5 gme. several times daily. The tannalbin was willingly taken by all. F.

Antipyrine and Quinine with Cinnamon-Water

At a recent meeting of the Liverpool Pharmaceutical Students' Association, Mr. Welch, of Chester, stated that he had had some trouble with the following mixture:

Antipyrine	80 grn.
Quinine Sulphate	10 grn.
Diluted Sulphuric Acid	60 grn.
Syrup Orange	½ fl. oz.
Cinnamon-Water........to make	8 fl. oz.

When sent out it was clear. On the bottle being returned to be refilled he was surprised to find a thick white precipitate deposited upon the sides and bottom of the bottle. He had seen it stated that cinchona alkaloids and antipyrine were incompatible. But he found that if made up with distilled water instead of cinnamon-water, there were no cloudiness and no precipitate, even on standing several days. The antipyrine or the quinine made up with cinnamon-water alone, yielded a clear mixture. It appeared, therefore, that the cinnamon-water had some action upon the quinine and antipyrine when together. He filtered the precipitate from the mixture made up as ordered, and found both antipyrine and quinine in the filtrate. He had also noted that, on adding a little diluted sulphuric acid to the deposit, a distinct pink coloration took place, although little, if any, of the deposit was dissolved.

In the discussion brought on, it was stated that perhaps if the cinnamon-water used was made by shaking up the oil, and filtering through magnesia, such a precipitate as described might be produced. Or it might be that the cinnamic aldehyd in the cinnamon-water had decomposed, and a precipitate of quinine or antipyrine cinnamate formed.

The statement was also made, that, according to one authority, quinine was said to be more soluble in the presence of antipyrine. F.

Ointment for Psoriasis

Dr. Richter (*Sem. méd.*) recommends the following combination as an application in psoriasis:

Ichthyol	
Salicylic Acid	
Pyrogallic Acid..........of each	3 gme.
Olive Oil	
Lanolin..........of each	10 gme.

F.

Ichthyol for Insect Stings

Dr. W. Ottinger (*Wien. med. Blätter*) narrates his lack of success with ammonia, but mentions that he has found ichthyol an admirable remedy. He has tried it for the stings of flies, gnats, bees, and wasps, and has found that it causes the phenomena of inflammation to subside quickly and surely. He attributes its effect to vaso-constrictor action. He advises applying it pure in a thick layer, but it may be used in the form of an ointment F.

Prescription Difficulties

Among the prescription difficulties recently submitted in a postal-card competition (*Chem. and Drug.*, No. 877, p. 611), were the following, which were solved by their respective contributors in the manner described.

CALCIUM PHOSPHATE IN SOLUTION

Calcium Phosphate	3 dr.
Citric Acid	enough for solution.
Syrup Orange	1 fl. oz.
Distilled Water..........to make	6 fl. oz.

After rubbing the calcium phosphate down with 6 dr. of citric acid and allowing it to remain for several hours, a great part of the phosphate remained undissolved. The difficulty was overcome in the following manner: The calcium phosphate was dissolved in diluted hydrochloric acid and reprecipitated with ammonia. The precipitate, after being well washed, was found to be completely soluble in 4 dr. of citric acid, and thus the mixture was dispensed with a minimum quantity of citric acid.

ICHTHYOL AND SYRUP

Ichthyol	2 dr.
Syrup Iron Iodide	2 fl. oz.

Every plan possible was tried to mix this, and the only way it can be done is by adding 15 grn. of powdered tragacanth to the syrup before adding the ichthyol.

PETROLEUM EMULSION

A considerable quantity of emulsion with ordinary burning-petroleum, containing 15 minims per dose, was required to be nice in appearance and palatable. The following was found to answer well:

Petroleum	2½ fl. oz.
Powdered Acacia	10 dr.
Mix thoroughly and add at once:	
Distilled Water	2 fl. oz.
Mix well until thoroughly emulsified, then add:	
Elixir Saccharin	1 fl. oz.
Essence Bitter Almonds	160 min.
Distilled Water to make	20 fl. oz.

ANTIPYRINE AND SPIRIT NITROUS ETHER

Antipyrine	15 grn.
Wine Antimony	1 fl. dr.
Spirit Nitrous Ether	2 fl. dr.
Syrup Tolu	3 fl. dr.
Solut. Ammonium Acetate	3 fl. dr.
Chloroform Water to make	2 fl. oz.

A green color may be avoided by dissolving the antipyrine in the chloroform water and adding this solution to the other ingredients, a clear mixture resulting.

LEAD-WATER AND BLACK WASH

Lead-water	2 fl. oz.
Black Wash	2 fl. oz.
Glycerite Carbolic Acid	3 fl. dr.
Spirit Peppermint	2 fl. dr.

To make this haphazard, means all the suboxide being thrown down, and a sticky mass of it stuck all round the bottle. The way out of this difficulty is to mix the two lotions and the glycerite, and add with continuous agitation the spirit of peppermint drop by drop.

DIGITALIS AND IRON

Tincture Iron	1 fl. dr.
Tincture Digitalis	1 fl. dr.
Diluted Phosphoric Acid	2 fl. dr.
Syrup Orange, Flowers	4 fl. dr.
Water to make	6 fl. oz.

This had previously been dispensed evidently in the order in which it is written, and the mixture was turned out almost black. Always take the precaution of first adding the diluted phosphoric acid to the tincture of iron in order to convert the iron into phosphate, and add the tincture of digitalis last, which results in the mixture not being otherwise colored than if the digitalis alone were added to the water.

BALSAM PERU IN PESSARIES

In making bougies, pessaries, and suppositories it is generally considered that the addition of wax is inadmissible, yet it was found, together with careful manipulation, the only means of producing a pessary of the following prescription, which was uniformly mixed and proved perfectly soluble:

Balsam Peru	10 grn.
Iodoform	5 grn.
Cacao Butter	60 grn.

The procedure was as follows: A large funnel was placed in a ½-pint measure, the dram-mold put into the funnel, and soap-liniment poured carefully over each division of the mold, which was then turned downwards to drain. The iodoform was then added to the balsam previously placed on a slab, and the two mixed. The cacao-butter and 5 grn. of white wax are then reduced to very fine shavings, put in a small porcelain evaporating dish, and the flame of a spirit-lamp cautiously applied to the bottom of the dish until the mixture was liquefied; then, with constant rubbing, added to that on the slab. This mixture was placed in the dish, and kept suspended in boiling water, stirring continuously till liquefied, and poured when lukewarm into the mold. The pessaries were allowed to remain in the mold half an hour; they came out well, and each presented a homogeneous appearance.

F.

Tincture of Cantharides in Infectious Nephritis

Antoinette Myszynska (*N. Y. Med. Jour.*, No. 962, p. 647) gives an account of experiments with tincture of cantharides in the treatment of ten cases of epithelial nephritis. It was administered in doses of from six to eleven drops in a glass of milk. The patients were first put upon a milk diet, then on the ordinary diet of the hospital, a condition which conduced to a better appreciation of the effects of the tincture on diuresis and on albuminuria. The results were as follows: Rapid and complete recovery from a persistent albuminuria occurred in a malarial subject; recovery from an excessive albuminuria that had resisted all other treatment for seventeen months, in a tuberculous subject, with improvement in the general condition and fibrous cicatrization of the lesions of the third degree; improvement in three cases, that was interrupted by the departure of the patients against the advice of the physician; and, finally, negative results in five cases.

In eight of the ten cases (all but those of lead-poisoning) the tincture of cantharides manifestly and rapidly increased the amount of the urine, and this increase persisted after the cessation of the drug and the suppression of milk in the patient's diet.

A new point observed was that, the tincture being administered in all cases at first with the absolute milk diet and afterward with a mixed diet, the proportion of albumin decreased in spite of the suppression of the milk, and diuresis remained abundant.

Without exception, a marked increase of appetite was observed in the patients. In one case the drug seemed to have a peculiarly salutary and unexpected influence on the general condition of the patient.

The writer concludes that, as the tincture of cantharides is a remarkable diuretic and a valuable means of decreasing the degree of albuminuria in young subjects suffering from epithelial nephritis, it will be useful to continue its employment in similar cases, in doses of from four to twelve drops in a glass of milk; its use should, however, be suspended on the least symptom of intolerance, and resumed after a time in progressive doses.

M. Du Cazal, says the writer, insists particularly upon the necessity of repeated doses of the tincture after short intervals of rest, if the drug has not shown itself efficacious the first time, and he cites favorable instances in support of this statement. F.

Formaldehyd in Ringworm of the Scalp

Dr. Leslie Roberts states (*N. Y. Med. Jour.*, No. 962, p. 648) that he has tried the 40-per-cent. formaldehyd solution in a moderate number of cases of ringworm of the scalp. In one case, the solution was well rubbed in every morning for five consecutive days, and after an interval of a few days reapplied in the same way until the necrotic cuticular epidermis began to separate en masse. To test whether the formaldehyd had really penetrated to the bottom of the follicle, Dr. Roberts removed an intra-follicular stump from beneath the epidermal scab and planted it in the standard soil of Sabourand's formula. In the usual time the thin superficial vegetation characteristic of microsporon made its appearance, thus proving that the formaldehyd had not penetrated into the depths of the follicle.

Dr. Roberts thinks there can be no question as to the destructive action of formaldehyd on the trichophyta as well as on other forms of mold-growth, but it is his opinion that the so-called germicides exert their beneficial action in ringworm of the scalp not by virtue of their germicidal properties, but because of their stimulating effects upon the hair pupillæ. This statement, of course, he says, does not apply to the surface of the scalp nor to the upper parts of the follicles that are directly accessible to the drug.

It appears to him that the action of formaldehyd closely resembles that of phenol, though he thinks it less reliable than phenol on account of the very possible accident of suppuration that occasionally accompanies what may be called the normal phenoloid action of the formaldehyd. He has seen a 40-per-cent. solution set up a suppuration that persisted for weeks. On the other hand, he has never seen the 95-per-cent. liquid carbolic acid produce the slightest trace of suppuration when applied to the scalp. There can be no question, he thinks, of the powerful stimulating effect of formaldehyd on the growth of hair; and this, he says, combined with germicidal action on the surface fungus renders it a useful, but by no means specific remedy in case of ringworm of the scalp. F.

Amyloform in the Treatment of Wounds

This new antiseptic is a chemical combination of formaldehyd with starch. It is a white, odorless, insoluble powder. C. Lougard and Beauchamp (*Med. Chir. Centralblatt*, Jahrgang XXXII, No. 10, p. 127) claim to have used this drug in numerous cases of phlegmon, abscesses, furuncules, pustular wounds, tubercular processes, and gynecological cases with great success. Lougard holds that it is a powerful deodorizer, that it checks secretions, is highly stable, is non-poisonous, non-irritating, and that it is an antiseptic in no way inferior to iodoform. Krabbel, who examined it both bacteriologically and clinically, comes to the same conclusions, while C. L. Schleich contends that it holds free starch which smears up the wound and checks to a great extent the otherwise good effect of the formaldehyd it contains. P.

Preservation of Hydrogen Dioxide

Sunder states (*Pharm. Ztg.*, XLII, p. 155) that the addition of 2 per cent. of alcohol or of ether serves to keep hydrogen-dioxide solution perfect for several weeks, and that the preparation suffers no loss of oxygen in that time, as shown by the control tests made by Freyss. He states that the substitution of these for the diluted sulphuric acid heretofore used is especially valuable in so far as the disturbing element so frequently introduced by the acid mav be avoided; and this is particularly the case where the medicinal hydrogen peroxide is in question. F.

REVIEWS

Eye-Strain in Health and Disease: With Special Reference to the Amelioration or Cure of Chronic Nervous Derangements Without the Aid of Drugs. By Ambrose L. Ranney, A.M., M.D., Author of "Lectures on Nervous Diseases," etc., etc. Illustrated with 38 wood-cuts. One volume, royal octavo, pages viii-321. Extra cloth, beve'ed edges, $2 net. The F. A. Davis Co., Publishers, 1914 and 1916 Cherry street, Philadelphia; 117 W. Forty-second street, New York; 9 Lakeside Building, Chicago.

A work that can add anything to our present knowledge that will aid us to cure such diseases as chorea, epilepsy, and insanity, must at all times be a welcome messenger to the medical profession. That the author has succeeded in this line can scarcely be doubted after the perusal of his work on "Eye-Strain in Health and Disease." Particular stress is laid upon the eye as a reflex of paramount importance; so that in all cases of chronic chorea, epilepsy, nervous prostration, chronic forms of cephalalgia and insanity, every means in our power should be utilized to allay any irritation coming from this source. Refractive errors are always most carefully investigated and corrected, while heterophoria is in no case lost sight of. Instances of cases in which graduated tenotomies for heterophoria have done a wonderful amount of good; cases in which no other eye-trouble could be found, refractive or otherwise, are here given in full, so that the skeptic will find food for reflection, while the general practitioner to whom the subject is new, will have a fresh field in which to test his skill in curing cases of chorea, epilepsy, etc.

Of the style of the work, its lucidity and general arrangement which make it most agreeable reading, too much cannot be said in its favor. That the reader will be well repaid in giving this work his most careful consideration, few will doubt, while many will be benefited.

The Liver of Dyspeptics, and Particularly the Cirrhosis Produced by Auto-intoxication of Gastro-intestinal Origin. By Dr. Emile Boix. Authorized translation from the latest French edition, by Paul Richard Brown, M. D., Major and Surgeon, U. S. Army. G. P. Putnam's Sons, New York and London. Pp. 133.

The object of the book before us is to prove, first, that alcohol is bound to be relegated to a subordinate place as an etiological factor in the different forms of hepatic cirrhosis, and second, that there is a distinct variety of cirrhosis, hitherto not described, which owes its origin to dyspepsia or gastro-intestinal auto-intoxication. The author names this variety dyspeptic cirrhosis. Attention is called to the number of irritant substances ingested with the food and particularly to the immense variety of toxic substances, generated in the gastro-intestinal canal as a result of a faulty digestion.

The detailed histories of twenty-six patients are given in whom alcoholism was no factor, but who suffered with various forms of dyspepsia and exhibited unmistakable cirrhosis. A number of experiments was made on rabbits, who were fed with different irritating substances (such as butyric, lactic, valerianic and acetic acids, acetone, pepper, living cultures of Bacterium coli communis and extract of feces), with or without the addition of alcohol. On autopsy, those rabbits that received no alcohol exhibited much severer hepatic lesions than those who did. The author, who has certainly done his work thoroughly, reaches the following conclusions:

1. Entirely independent of the alcoholic habit, we frequently meet a pathological condition of the liver with dyspeptics, which is manifested by increase of the size of this organ; if this increase is temporary, it is hepatic congestion; if permanent, it is dyspeptic cirrhosis.

2. This dyspeptic cirrhosis, described for the first time by the author is manifested, clinically, by an enlarged liver, smooth, remarkably hard (like wood), without icterus or ascites; histologically, by a diffused cirrhosis, with relative integrity of the hepatic cells. Its duration is long (ten years or more), the size of the liver remaining almost the same.

3. The chief causative factors are the acids of fermentation: butyric, lactic, valerianic and especially acetic acid, and a gouty diathesis.

As to the translation, it is, as a whole, distinctly good. There are some crudities; in a number of places the original has been followed too closely, thus making the translation somewhat strained, as in the sentence: "The liver is to vegetative life that which the brain is to the life of relation." The word "ventre," we should always render abdomen, and not "belly," when speaking of human beings, the latter translation being considered with us somewhat vulgar. But these are all small matters and as the reviewer is familiar with the obstacles and thorns strewn over the path of the medical translator, he will forbear being hypercritical.

The execution of the two colored plates is excellent. A perusal of this interesting thesis will amply repay the reader for the time spent.

Manual of Diseases of the Ear, Including Those of the Nose and Throat in Relation to the Ear. By Thomas Barr, M.D., Lecturer on Diseases of the Ear, Glasgow University, etc., etc. Second edition entirely revised and extensively re-written. James Maclehouse & Sons, Glasgow, publishers; Macmillan & Company, New York, publishers. Price, $3.50.

Like most writers on aural diseases, the author at the outset gives a description of the different methods employed in the examination of the ear, mentioning, successively, examination with the unaided senses; through the external auditory canal; through the Eustachian tube; and closing the chapter with a section on methods of testing the hearing-power.

The arrangement, illustration, and subject-matter in general of this chapter could not well be improved upon. We regret, however, to note, in the last section, the omission of some important functional tests, but feel that the writer has, from fear of being too diffuse for the scope of his work, sacrificed clearness for conciseness. This is especially true of the disposition made of the Galton whistle. This valuable instrument, from a diagnostic standpoint, is described, illustrated, and disposed of in about a dozen lines. The student is left to guess at its use and the method of registering its findings. What is true of Galton's whistle is almost equally true of the various tuning-fork tests.

A chapter on symptomatology follows, a chapter replete with suggestive hints to the aural investigator, and one which stamps the writer as a careful and painstaking observer and teacher.

Chapters on causes of ear-disease, and methods of treatment, including the mastoid operation, follow.

We note with interest a section on the after-treatment of mastoid operations. Much has been written about the anatomy, physiology, and operative procedures on the mastoid; but all too little has been said on the after-treatment. Any book which will lead one to a clearer knowledge of post-operative methods and conditions will indeed be valuable.

A chapter on affections of the nose and throat and the after-treatment of these conditions, is clearly out of place in a work on diseases of the ear. We regret that the writer has devoted any space to the consideration of these subjects, however correlated they may seem to be. "The adenoid physiognomy" and pictures of nasal specula and atomizers are far too common, and can in no way enhance the value of a scientific discussion of affections peculiar to the ear.

We equally regret the presence, at the end of this volume, of the usual stock formulæ of the average ear, nose, and throat surgeon. It seems to us that matter of this kind cheapens and detracts from the value of a work, and can only appeal to the physician or surgeon who is looking for formulæ rather than diagnosis.

The symptomatology of mastoiditis, and other complications of purulent inflammation of the middle ear, as sinus thrombosis, cerebral abscess, etc., are carefully and fully discussed, as well as the treatment of these conditions.

The author still believes in the efficacy of the poultice and Wilde's incision in the treatment of mastoid periostitis. This is not in accordance with accepted methods of procedure in this country, where the Wilde's incision, as such, is seldom, if ever, employed.

The author also uses the word "matter" synonymously with "pus."

In the perusal of Dr. Barr's work, one is struck with its scientific arrangement, its clearness of diction, the vast amount of material condensed in a work about half the size of modern text-books on the ear, and especially with the absence of personal reference. Some of the more recent treatises on the ear have contained so many pronouns of the first person, and so many "author's specimens," that we had been almost led to believe that the writers must have been ubiquitous and that no aural anomalies could have escaped their observation. This method of over-awing the lesser lights in the profession may be legitimate, but it certainly nauseates and smacks of the charlatan rather than the true investigator.

Typographically this work is unique, all important matter being printed in large, readable type. The illustrations are well executed, and largely are from original drawings.

We have read no work on the ear which, in our judgment, is better adapted to the wants of the student or practitioner.

◆

Glycerite of Starch.

According to John H. Pearson (*Pharm. Jour.*, No. 1393), the separation that so frequently takes place in glycerite of starch can be entirely overcome by means of a very small quantity of tragacanth, one grain to the ounce of finished product having been found by him sufficient to keep the glycerite from separating, and even to correct this in preparations that had "gone wrong." F.

CORRESPONDENCE

Remedial Qualities of the Chelidonin Salts

To the Editor of the A. M.-S. Bulletin:

The last number of the American Medico-Surgical Bulletin contains, on page 670, a little article concerning chelidonin phosphate, sulphate, and tannate. According to this article, the preparations mentioned are generally considered entirely new, especially as far as their therapeutic value is concerned. Now I beg to state that this is scarcely correct. In 1881 I was connected with the Eastern Dispensary of New York, occupying the surgical chair of that institution, and had an opportunity to see and examine several female patients suffering from carcinoma mammæ. I took charge of two of them, and have been very successful in treating them with fluid extract of Chelidonium majus and certain combinations, both internally and externally.

My attention to this remedial agent was first drawn by Rademacher; second and third by H. L. von Guttceil, 30 Jarhre Praxis Wien, 1873; Karl Kissel, Medicinalrath, Berlin, 1872; and last but not least by my own father, George Kamper, a former assistant of Professor Justus Liebig in Giessen in 1836.

I further wish to state here, that I was an apothecary and chemist before being a physician, and in consequence of above-mentioned experience, which I have gone through a number of times, I made, in 1883, a preparation of chelidonin citrate. If you desire, I shall be happy to acquaint you with my twenty years' experience with chelidonium.

Fr. Z. Kamper.

44 St. Marks Place, New York.

[The use of Chelidonium majus is very old. It has long been used in domestic practice, and was once official in the United States Pharmacopeia. The salts of its alkaloid have also been long tried and dropped. Lately, however, a revival of the remedy has occurred because of the claim of benefit from it in cancer.—Ed.]

◆

Foreign Bodies in the Male Bladder

An analysis of 221 cases of foreign bodies in the male bladder has recently been made by Dr. Francis Packard, of Philadelphia (*Annals of Surg.*, Vol. XXV, 569).

In 108 cases the body was some part of a surgical instrument, catheter or bougie. In the other cases there was nearly every conceivable variety in the objects found, e. g., lead-pencils in eleven cases, rubber tubing six cases, toothpicks, pen-holders, button-hooks, cigarette-holders, shoestrings, hair-pins, needles, and even watch-chains and three penny pieces. It is interesting to note that in thirty-four cases the patients acknowledged that the objects had been introduced to promote sexual excitement.

The foreign body frequently gives rise to the formation of a vesical calculus, but seldom causes death. D.

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EDITOR'S NOTES

There are not many medical journals that can boast of having passed their fiftieth year of existence as does the New Orleans *Medical and Surgical Reporter* in its July issue. We heartily congratulate our esteemed contemporary on its half-century of success, and hope that it will live through many such, meeting the good fortune which it so richly deserves. To survive the vicissitudes of a fifty years' struggle in medical journalism is something to be proud of, as it tells a tale of fitness that is an undeniable voucher of value and usefulness.

Dr. Wm. B. Coley, our respected and able collaborator in our department of surgery, was lately the recipient of a rare mark of honor from Lord Lister. In a public address in the theatre of the Royal College of Surgeons the distinguished surgeon pointed one of his most important remarks with the statement that he had that day been reading a pamphlet from Dr. Coley wherein it was stated that he (Dr. Coley) had performed 300 operations under antiseptic conditions, for the radical cure of hernia without a single death from the operation, and but one death in the total which was due to the action of the anesthetic on weak lungs. The record itself is one that Dr. Coley may well be proud of, and to have the stamp of approval put upon it by one so distinguished in surgery as his lordship is certainly exceedingly gratifying.

The fear expressed by some of the medical men of Canada that American physicians were likely to swamp the meeting of the British Medical Association with superior numbers is now demonstrated to be wholly imaginary. It is evident that the physicians of the United States are not going to fall over each other in their anxiety to be seen at the Montreal meeting. In the extreme generosity of their hearts the committee in charge of this duty sent out six hundred invitations to this side of the line, and up to the present the published reports only tell of two hundred and twenty-one of these who have had enough anxiety about the matter to even deign to return a timely reply. The names of fifty-three who have merely intimated their intention of attending has been published. The programme of entertainments speaks well for the activity of the local committee and the liberality of the citizens of Montreal. The preliminary programme of expected papers is a very attractive one.

Our wideawake contemporary, *The Medical Age*, in its issue of July 26, rakes the osteopaths for the manifestation of ignorance and venality displayed in the initial number of their organ, the *Journal of Osteopathy*. Still, the founder of the system and editor of the journal, announces himself as "a great seer of the visions of the night." One of the professors at Kirksville, a "William Smith, M.D., D.O.," claims to have "received his medical education from the University of Edinburgh and the Royal Colleges of Physicians and Surgeons of Edinburgh." The *Age* observes that there are no such teaching bodies in existence, and that Polk's and Flint's Directories contain no such name as "William Smith, M.D.," with any such origin. One of Dr. Smith's miracles wrought by the aid of osteopathy, related in the *Journal*, is that of a patient who had been told that he had but three days to live, as he was suffering from cancer of the stomach. His wife, in opposition to his physician's advice, brought him to Kirksville. This patient Smith claims had passed no urine for three months before his arrival. The attending physicians, he says, declared that this was due to the pressure of the tumor upon the tubes leading from the kidneys to the bladder. Smith next tells us that within thirty hours, by the aid of a catheter, he drew off nearly five gallons of stale, ammoniacal urine. The editor of the *Age* aptly adds: "Can ignorance and cheek go farther?" Public ignorance of medical affairs makes it impossible to correct an evil of this kind.

An Army Medical Board will be in session at Washington City, D. C., during October, 1897, for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies.

Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before September 1, 1897, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal acquaintance, from at least two reputable persons, as to his citizenship, character, and habits. The candidate must be between 22 and 29 years of age, and a graduate from a regular medical college, as evidence of which, his diploma must be submitted to the Board.

Successful candidates at the coming examination will be given a course of instruction at the next session of the Army Medical School, beginning November 1, 1897.

Further information regarding the examinations may be obtained by addressing the Surgeon-General, U. S. Army, Washington, D. C.

The osteopaths seem to be masters of the quacks' stronghold, newspaper advertising. They have gained command of the reading pages of at least one large Eastern daily. A late issue contained a lengthy description of the new "science," references to some wonderful cures of notable persons, with particular reference to the case of Senator Foraker's son, and the following letter from Mrs. Foraker: "Dr. A. T. Still—My Dear Sir: I most heartily congratulate you upon the recognition which the Legislature and Governor of your State have given you and your work. Your fame is spreading abroad throughout the land. Wherever I go I find inquirers anxious to learn about osteopathy. I predict there is a great future for your system of treatment, and that your name will have a permanent and honored place in the history of the benefactors of mankind. With sentiments of high regard, I remain, Very truly yours, Julia B. Foraker. Washington, D. C." Poor woman! Little does she know of the history of the successive attempts of such men as Still to debauch medical science. He is now making a tool of her to aid in his climb toward wealth over hecatombs of human victims sacrificed to his greed and ignorance or worse.

Medical men are so accustomed to hearing good things about themselves as a whole, that it is a wholesome thing to know that there is occasionally a man to be found who does not hold us in the highest esteem. We always wish to see ourselves as others see us, even when the standpoint of view is that of someone who has cheated the doctor out of his fee. The following is from a correspondent of the Boston *Traveler*, and was published in its issue of July 9:

> Boston, June 24.—I heartily agree with T. A. Bland. Speaking of our cultivated physicians, they are a deplorable, ignorant set. They have a tendency to greed, and commit crime to gain. Morphine dispensers (sic). Could society read the marks set by Providence upon them people would turn from them. They are combative, cautious and insensible to justice; their treatment of patients deplorable. They are lawless and savage and illiterate. They present a scene of moral and intellectual desolation. Their progress is limited. I do not exaggerate when I say that they remain up to the present time in barbarity. They are unmitigated asses, making no progress; forever using someone else's brains. They make no progress towards civilization; they remain stationary in a state of rude barbarism. Years pass, they make no advancement only what they steal. If their skulls were put into the hands of a phrenologist they would be told to chop wood instead of human beings. They lay (sic) in waiting to rush upon their prey; they kill, and reckon it as an honorable death. They like to inflict pain and massacre the ill. The American savage is far superior; they are neither civilized nor Christianized. The most dreadful tortures should, and no doubt do, await them. I make it a virtue to judge charitably. I am, and so are many others, as disgusted with physicians as T. A. Bland. Surely the people need protection against these rascals. E. BUNNELL,
> 1½ Lawrence St.

Chinamen have long had the name of being good imitators, but in diploma-making they seem to be on a fair way of beating Rutland and all other shrewd rogues of his kind. The new board of medical examiners for Indiana has come across a Celestial who apparently with a brush, ink, and paper is able to supply himself with a duly authenticated diploma. Don Sang being the only Chinese doctor in the State of Indiana, made application for registration before the board in full confidence that he could outwit its members and pass with flying colors. He laid before them a sheet of paper about a foot long and eight inches wide covered with Chinese characters and having at the lower corners red-ink imitations of a seal. An interpreter was called who pronounced it bogus, said any one could make a piece of paper like that, and declared that he knew of no medical college in China except those of the missionaries whose diplomas are all printed on parchment, and none of them are as old as the one before them pretended to be. The following is a translation of what the diploma of Dr. Don Sang contained:

"China. City of Canton medical college. Tong Chuen was first in the examinations of the students in the medical college for the privilege of practicing medicine. In the name of the president, in the name of the professor. This college is the best place in China to gain an education in the science of medicine. The science of medicine has to do with the health of people and the cure of diseases and is the noblest of sciences. The holder must not assign or permit any no one else to use this diploma. He is acquainted with the pulse and what causes it and knows how to recognize disease and prescribe for it. The time of the regular examination and its place having been fixed by the emperor he has been examined and has passed the first. Done in the twenty-ninth year of the emperor Tao in the city of Canton, the graduate's name being Tong Chuen, aged twenty-one years and a citizen of the village of Gung, in the province of Canton."

PUBLISHERS' DEPARTMENT

ANTIKAMNIA IN LABOR

H. C. Reemsnyder, A.M., M.D., of Philadelphia, in a recent article, says that whenever there is unnecessary pain in labor he administers 10 grn. of antikamnia, repeated in two hours, if necessary. In this way the pain which annoys the woman without helping her is relieved, while the uterine contractions become more firm and labor is accelerated.

Dr. R. B. McCall, Hamersville, O., in an article to the *Woman's Medical Journal*, says: "In cases marked by unusual suffering in second stage, pains of nagging sort, frequent or separated by prolonged intervals, accompanied by nervous rigors and mental forebodings, one or two dozes, 5 grn. each, of Antikamnia tablets, promptly change all this. Indeed in any case of labor, small doses are helpful, confirming efforts of nature and shortening duration of process."

ARSENAURO—MERCAURO

J. P. Sheridan, M.D., of New York, in an article recently published in *The Times and Register* on Chronic Malarial Toxemia, says: "In the treatment of these conditions I have used Barclay's solution of bromide of gold and arsenic (Arsenauro), with the most gratifying results. My attention has been repeatedly called to this solution, and its companion, liquid bromide gold, arsenic and mercury (Mercauro); but, like most of my colleagues, I did not realize their efficacy until I had put them to a crucial test. This I have done in a large number of cases, extending over a period of twelve months. At first I made the common error of discontinuing their use too soon. We must push them as we do iodide of potassium—to the point of toleration. I have recently used these solutions in other conditions requiring alteratives, and my results have been satisfactory.'

IMPERIAL GRANUM IN VOMITING OF PREGNANCY

The following letter was received by Messrs. John Carle & Sons, of this city:

"Gentlemen—It affords me pleasure to inform you of my high estimation of the value of Imperial Granum in a recent case of obstinate vomiting of pregnancy. For many days at a time my patient could retain practically nothing in the way of nourishment until the Imperial Granum was tried, when the stomach immediately became more tolerant and nutrition was rapidly regained —and at this writing, four weeks from the time she began its use, she is still relying almost exclusively on it for nourishment. It is safe for me to say that in the future I shall depend on the Imperial Granum when its use is indicated, and with best wishes for your success, I am, yours very truly, ——— ——— M.D."

HAGEE'S CORDIAL OF COD-LIVER OIL

Willard H. Morse, M.D., F.S.S., iamatological chemist, has given the following therapeutic estimate of Hagee's cordial of cod-liver oil:

I—A careful analysis shows the presence therein of those definite alkaloids and active medicinal principles obtainable from fresh cod-liver oil (and to which such oil owes its medicinal qualities), in combination with the hypophosphites of lime and soda. Therefore

II—The cordial possesses the therapeutical characteristics of these components, with such physiological actions as are agreeable thereto.

III—By the same analysis it is shown that in the process of manufacture every impure and deleterious element has been removed. Therefore

IV—The cordial produces none but the most positive results, and can be administered to any patient, and indefinitely, without creating any repugnance to its use.

V—It is indicated in all forms of wasting diseases and asthenic conditions.

VI—It stimulates and supports assimilative nutrition.

VII—It exerts the influence of an antiseptic and germicide on all micro-organisms.

VIII—It has an effect at once marked, immediate, progressive, and continuous.

IX—It obviates all degenerative changes.

X—An agreeable preparation, readily taken, and fully serviceable, it is to be appreciated as a very important addition to the new materia medica.

UNGUENTINE

An editorial in the *Daily Lancet*, of Philadelphia, July 15, endorses unguentine very highly. Cases in which its use proved beneficial were quoted, and the article concludes with the following sentence: "We have found unguentine to be an extremely valuable article for local use, and we honestly and confidently commend it to our readers. Try it; you will like it."

NEWS

The Philadelphia Board of Health is prosecuting a doctor who failed to report a case of scarlet fever.

The Black Forest (Germany) has a sanitarium devoted to the treatment of tuberculous patients. They are treated principally upon the dietic plan.

There have been but two deaths out of ninety major operations at the new hospital for women in Euston Road, London, England. All the surgeons are women.

Dr. Florence Hunt, a member of the Illinois State Board of Health, is said to be the only woman delegate to the International Medical Congress at Moscow.

According to the *Homestead*, of Springfield, Mass., the large towns of that State are being overrun with young doctors, while the country towns fail to receive an adequate supply.

Paterson, N. J., has a new law that forbids any person dealing in ice cut from filthy ponds, rivers, or lakes. The Health Board, aided by the police, is now seeking to enforce the law.

The Macon (Ga.) *Telegraph* says that the Spalding County Medical Society has, individually and collectively been sued by Dr. L. B. McCormick for $20,000 because they expelled him on June 21, 1897.

The Detroit Board of Health has informed the Poor Commission of the city that no more antitoxin can be supplied free to the poor in their care after August 1, 1897. About $1,200 worth was used during 1896.

Dr. Fred W. D. Evelyn, of St. Luke's Hospital, San Francisco, claims as the results of fifteen years' experiments to have found a certain cure by inoculation of horses' blood for drunkenness as well as for the transmission of the hereditary taint of alcoholism.

The report of Coroner Marlow, of El Paso County, Colorado, shows that for the last three and a half years Cripple Creek has been the "toughest town" in the United States. During this time 247 people have there met violent deaths. This is the highest record ever made in the "Wild West."

Dr. Bower, superintendent of the Nashville Hospital, having become associated with a medical college of that city, it became necessary for the City Council to select a successor. Now they seek to pass a law abolishing the necessity of putting a medical man in that place and giving it only to non-professional men.

The new State Board of Registration and Examination of Indiana says that there are perhaps about 1,000 alleged physicians in that State that will be driven out by their registry law. For years Indiana has been the dumping-ground for quacks from all parts of the United States; but now they must leave and seek more congenial quarters.

Two Pullman cars loaded with fifty-three Mexican doctors and members of their families passed through the United States during July, on their way to the International Medical Congress at Moscow, Russia. They were delegates from the medical societies of twenty-seven States and two Territories of the Mexican Republic. Dr. Raijaiel Lavista, President of the Mexican Association of Physicians, was of the party.

Prof. Sanarelli, of the University of Montevideo, claims to have discovered the germ of yellow fever. Dr. Matas, a yellow-fever expert, of New Orleans, suggests to a *Times-Democrat* reporter, who interviewed him on the subject, the advisability of our government sending a commission of American medical men to South America, with Surgeon-General Sternberg at the head to study the matter and report on the merits of the discovery.

At the late quarterly meeting of the Jefferson County Medical Society, of Watertown, N. Y., after a lively discussion of fraternal orders where physicians receive a dollar a patient, or less, for a year's service, the following resolution was adopted: "That it is the sense of this society that, while we have no objection whatever to our members becoming Foresters, it is beneath our dignity as professional gentlemen to enter into any such arrangement as the one previously described."

The Chicago *News* has been investigating the Independent Medical College of its city, and finds that it is turning out students very fast. One J. Armstrong, M.D., is at the head of the concern, and he is said to guarantee a medical diploma and a practice all in six months. To a reporter he said, "Our examinations are not hard. If you have studied a little, you could probably pass without much instruction from us. I'll guarantee that in less than six months we can give you a diploma, and you can be engaged in a lucrative practice."

The Tri-State Medical League of Michigan, Indiana, and Ohio, held its annual convention at Detroit, Mich., on July 15. About seventy-three are reported as having registered, but only from twenty-three to thirty attended any session. The principal feature of interest was a paper by Dr. Van Crede, of Ann Arbor, in which specialists were taken to task for their lack of general knowledge and experience. Dr. Humiston, of Cleveland, raised something of a breeze by reading a paper on "How Can We Limit the Work of the Gynecologist?"

The Board of Health of St. Paul, Minn., is prosecuting a Mr. Samuel Diether for tearing down a diphtheria notice from his house and ignoring their orders. He holds that the Board of Health had no right to put the notice up, as his family physician says that his child has not got diphtheria and that he never sent any such report to them. Two members of the Board went to the house before placing it under quarantine, took a culture from the throat of the patient, which, on development, proved to their satisfaction that the case was one of diphtheria.

The Chicago *Chronicle* of the 18th of July contained a sensational, illustrated article about the way new internes of the Cook's County Hospital that refuse to part with their beards are treated. The following head-lines give the substance of the article: "Whiskers Under the Ban," "County Hospital Doctors Disapprove of Medical Beards," "Internes That Offend Receive Gentle but Convincing Hazing," "Sad Fate of Dr. Brown's Beloved Burnsides," "Blue Stain Upon His and Shanahan's Smooth Face." The three accompanying pictures contained the following explanatory titles: "Clipped Them as Close as Possible," "Painted Cute Rings Around His Eyes," "He looked like a Blue Zebra."

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EDITORIAL

THE RIVAL MICROBES OF YELLOW FEVER

MANY efforts have been made within the past twenty years to isolate the specific microbe of yellow fever, and a number of claimants for the honor of having accomplished this task have from time to time appeared, but so far none of them has had his work properly verified by competent men. Among the earliest claimants were Dr. Carmona, of Mexico, and Dr. Freire, of Brazil. The former gave his pseudo-microbe the name of Peronospora lutea, and the latter named his germ Cryptococcus xanthogenicus. Since 1883, when these supposed discoveries of the yellow-fever microbe were announced, there have been several other aspirants for glory. Bacteriologists are too exacting in the conditions and evidence they demand before crowning anyone victor, for a false claim to be accorded a standing among them in a matter of this kind. It is no doubt very funny for the comic papers to assume for them all sorts of silly discoveries, and it is equally amusing to find the enemies of bacteriology quoting their stale jokes as proof of the falsity of the whole science, or at least of as much of it as applies to medicine. The fact is that no other body of scientific workers takes more pains to thoroughly verify its work. Until every point has run the gauntlet of independent test nothing is accepted as proven. Other independent workers, who are quite commonly strangers in remote parts of the earth, see and testify to the same facts before full credence is given. Men who have won names as careful, painstaking bacteriologists, are likely to have considerable credence given to their reports from the start, and where a claim looks plausible on its face it will carry more weight before verification than if it appears incredible. Up to the present most of the supposed discoveries of yellow-fever germs have been announced by men of no marked standing, and their claims have appeared unreasonable to experts. Within a few weeks two new claimants have appeared. Both are men of good standing in such work. The first to appear on the scene was Dr. Giuseppe Sanarelli, Director of the Institute of Experimental Hygiene of the University of Montevideo, Uruguay. Following him has appeared Dr. W. Havelburg, a skilled bacteriologist of Rio de Janeiro, Brazil. As the respective microbes discovered by these men possess few, if any, traits in common, and are found in a different manner and in different parts of the body, there is naturally decided antagonism between the respective claims. No doubt each doctor has found a new bacterium, but it is quite certain that both microbes cannot be those of yellow fever, and as more facts appear it may turn out that neither contestant has secured the coveted organism. Either both gentlemen have worked with great secrecy so as to keep their facts away from each other as long as possible, or each must have known what the other was doing long before his work was completed. If Dr. Sanarelli did some of his work in Rio de Janeiro, as is reported, and as he says himself that he received part of his material from the Hospital of San Sebastian at Rio, then it is quite likely that each knew what the other was doing. If this is so why did they not compare notes and endeavor to harmonize the rival claims? The fact that Dr. Havelburg's report was first published in the *Annales de l'Institut Pasteur*, and that some of his work was done at the suggestion of M. Roux, would seem to indicate that he has strong backing, and that we are likely to have a lively scientific tilt over the affair. The legislature of Uruguay, assuming that Dr. Sanarelli has demonstrated the truth of his position, has conferred on him honorary citizenship and voted a donation of $10,000, adding their regrets that the condition of the country does not admit of their doing more. A careful study of the facts as far as published leads us to think that Dr. Sanarelli has come nearer proving his position than Dr. Havelburg. The Pasteur Institute is likely to take a hand in the skirmish before long, and then there will be a more complete development of the facts in the case. We understand that that Institute is in possession of cultures of both organisms, and will therefore soon be in a condition to pass judgment upon both. In only a few particulars do the two resemble each other. Both are facultative anaërobes (i. e., they normally grow where there is free oxygen, but can under proper conditions be developed without it), both ferment sugar, neither liquefies gelatin, neither assumes any characteristic color or form when grown on agar in the incubator at 37° C., both appear frequently in pairs, and both are fully resisted by birds but not by mammals. Havelburg's organism is a small straight rod one micromillimeter long, and from three-tenths to half a micromillimeter broad, while that of Sanarelli is also rodlike, but is rounded at the ends, and is described as being from two to four times larger. The former is sporeless, probably unciliated, is found in the stomach and not in the blood-vessels or tissues, makes broth cloudy, produces indol, and curdles milk. Its colonies are finely granular, yellowish discs, with delicate serrated borders, and there is no toxin separate from its body. That of Sanarelli being air-borne and resisting desiccation, is likely to be found spore-producing. Its movements indicate that it is ciliated, it is never found in the stomach except in unusual conditions that permit of its escaping from the tissues, its natural home is the tissues, it produces no precipitation in meat broth, it develops no indol, and it does not curdle milk. Its colonies are like drops of milk having a pearly reflection, and are opaque and projecting when developed at the temperature of the air; but are slightly gray, transparent, and non-projecting when grown in the incubator at 37° C. They likewise produce a very virulent toxin.

THE BACILLUS ICTEROIDES

MANY efforts have been made in the past to discover evidences of the existence of a specific microbe in the blood of yellow-fever patients but without success. Surgeon-General Sternberg and Dr. Hineman, of Vera Cruz, hunted in vain in this quarter about fifteen years ago. The latter gentleman, as reported by the former, examined the blood of patients in the last stage of yellow fever by taking blood from the hand, thinning it with artificial serum, and bringing it at once under the microscope. In nine cases so examined no deviation from normal blood was found, and no organisms were found. This fact has led bacteriologists to believe that the stomach, or perhaps the intestinal tract, was the proper place to look for the specific microbe. Dr. Sanarelli failing to find any indication of such organism in this region, turned his attention toward the blood and tissues, where he found what he believes to be the long-sought-for germ, and has given it the name of Bacillus icteroides. He has never encountered it in the gastro-intestinal tract. In yellow fever, as in typhoid fever, that region is invaded with the coli bacillus to the final exclusion of almost every other. The doctor explains the failure of others in that Bacillus icteroides multiplies but very little in the human organism. A very small quantity of the toxin, he says, is sufficient to produce the worst type of the disease, and its presence facilitates in a most surprising manner the appearance of a multitude of other kinds of germs. So quickly do the other forms follow it, that he has never found it alone in any autopsy he has made, and its isolation is only possible in 58 per cent. of all cases. Even where the best results can be secured, as in the minute capillaries of the kidneys, liver, or other organ, their numbers are so small that it is difficult to demonstrate their presence in the tissue-sections. Between the constant presence of a multitude of other forms and the relative scarcity of this form, the difficulties of its isolation are almost and sometimes quite insuperable. If all this is true then we cannot understand why Dr. Sternberg's photographs of yellow-fever blood, made for the Havana Yellow Fever Commission of the National Board of Health in 1879, showed no organisms, and why Dr. Hineman's microscopic investigations at Vera Cruz, in the same direction, were barren of results. During the time the Commission was in Cuba, animals were exposed to yellow fever in a number of ways, and none of them showed signs of infection. Dogs, rabbits, guinea-pigs, cats, chickens, pigeons, geese, and one monkey were experimented upon, both by exposure and by injections of yellow-fever blood, and yet the Commission secured no evidence of the susceptibility of animals. With these facts before us it would not be wise to jump suddenly to the conclusion that Dr. Sanarelli has solved this problem. The doctor says that the reason animals have not before been infected is due to the fact that black vomit has been used in the trials. This was not the case in those here mentioned. He tells us that he has found that the disease is air-borne, and yet animals exposed to the air of the worst kind of a pest ship failed to show any signs of the disease.

The most convincing evidence of Dr. Sanarelli's claim is found in the results of his injection experiments with filtered and sterilized solutions. These produce in men and animals, according to his reports, all the symptoms of yellow fever. Intravenous injections of the microbe into domestic animals, and particularly dogs, immediately produce violent symptoms, and end up with lesions that have all the clinical and anatomical appearances of human yellow fever. There are intense fatty degeneration of the liver and kidneys, acute parenchymatous nephritis, hemorrhagic gastro-enteritis, and uremic intoxication. Five experiments with sterilized material were made on men. Two of these had subcutaneous and three intravenous injections, and all of them produced typical yellow fever. There were the fever, congestions, hemorrhages, vomiting, fatty liver, nephritis, headache, backache, anuria, uremia, jaundice, delirium, and collapse. A sixth experiment has lately occurred, or is likely soon to occur, on a human subject. Dr. Antonio Quesada, of Paso de los Toros, presented himself some weeks ago at the Hygienic Institute of Montevideo and offered himself to Dr. Sanarelli as a test subject for experiment. No amount of persuasion could change his intention, and he declared if he could not get it done there he would have it done elsewhere. His wish was finally granted, and a special ward assigned to him, while three Uruguayan and three foreign physicians were appointed to watch over him. They will examine every sign that appears after the injection of the toxin and report on the results. Dr. Quesada is a robust man of 42, and is a good subject to experiment upon. The antivivisectionists usually wind up their arguments against vivisectors and believers in vivisection with the query as to why they do not vivisect themselves instead of poor, innocent, and inoffensive animals. This they always seem to think is a knockdown argument that proves conclusively the immoral character of the vivisector's work. Now they are about to have their wish gratified, and it is to be hoped that they will be satisfied with the result. The heroism of Dr. Quesada certainly cannot be doubted, and the spirit that prompts him is certainly commendable. He does it solely for the good of his fellow men. Who the other five patients were, or why they submitted to the injections of the toxin, is not stated by Dr. Sanarelli.

One peculiarity about the development of the Bacillus icteroides is that its nourishment, growth, and multiplication are facilitated in a remarkable manner by the presence of ordinary molds. These seem to constitute its chief protectors. When sown on gelatin the bacillus sometimes shows but slight signs of development, or it may not develop at all, but if mold-spores are sown in the same region as soon as the latter begin to grow, the former takes on fresh vigor and develops around it. Without the mold the bacillus soon weakens and disappears. The behavior of yellow fever to ships and its marine propagation will be completely explained by this and other characteristics if the bacillus proves to be what its discoverer claims. The implications derivable from such knowledge will also prove of immense value to boards of health. The power possessed by the bacillus of living in sea-water and its indifference to desiccation would seem to explain the persistence of the fever in maritime regions.

THE DIETETICS OF GLYCOSURIA

AT the recent Bordeaux meeting of the French Congress of Internal Medicine, some facts of great interest bearing on the treatment, and indirectly the dietetics of diabetes, were presented by Dr. Cassaet. He had been administering brewers' yeast in fifty-gramme doses once each day for some time to three diabetic patients. At first there was eructation of gas, followed by fetid diarrhea on the first or second day, but in a few days tolerance was established, after which the patients felt better than they had for a long time. At the end of two weeks their weight was increased three, five, and eight pounds respectively, the sugar reduced from two-thirds to three-fourths the amount previously passed, their appetites returned, pain diminished, general state improved, and strength markedly increased. When the treatment was discontinued, loss of weight was at once observed. It is evident that the yeast ferment in the performance of its usual function must have destroyed a large part of the dextrose (glucose) found in the gastro-intestinal tracts, and substituted alcohol therefor. Cassaet's experience confirms in an unexpected way the almost universal opinion of medical men that the presence of sugar in the urine of diabetic patients is much more than a mere symptom, that it has in fact some causative relation to the train of evils that belong to that disease. In his case we learn that the destruction by the yeast of all dextrose in excess of that which the intestines were able to dispose of immediately on production, resulted in a general and marked improvement of all the grave symptoms of the disease as well as in the subduing of the glycosuria. In a special monograph on "General Paralysis of Diabetic Origin," by Dr. V. de Holstein, of Paris, that appeared in the *Medical Week* of June 25, we learn of a case reported by Dr. Laudenheimer, in which the phenomena of general paralysis were caused by the sugar. Whatever removed the sugar removed the symptoms. Carlsbad treatment first checked the glycosuria, and with it the whole train of evil symptoms. The trouble returned until the patient was placed on a restricted amount of carbohydrates, when a striking improvement began at once. His sight and memory have improved, he has become normal as regards his psychical symptoms, and there are now no trembling of the tongue and no pupillary inequality. The patellar reflex is still exaggerated, but the other tendon reflexes have become normal. If the mere cutting off of an excess of sugar-producing food results in such benefits, then surely we have reason to believe that the excess of sugar is alone responsible for the evils which its removal abates. Troye's experiments at Königsberg in Naunyn's wards showed that the persistent giving of dextrose lowered the assimilative power of the system. Pavy, in the *British Medical Journal* for Aug. 16, 1890, pointed out the fact that so long as an excess of sugar is kept out of the blood the bad symptoms are all checked and may be averted. Some years ago Dr. Weir Mitchell produced artificial cataract in the eye of a frog by immersing it in syrup. As cataract is one of the evils that follow in the wake of diabetes, it looks as if there were here some indications of a causative connection between them rather than mere coincidence.

In an editorial in the *Journal of the American Medical Association* of August 7 occur the following words: "In fact, aside from possible local effects upon the urinary passages, we know of no certain reason why a certain excess of sugar ingested should not be normally excreted without serious systemic disturbance, as is the case with many other substances." Elsewhere in the same editorial we are told that diabetes "certainly is not made more endurable, even in the milder forms, where dieting does limit the sugar excretion." We have so high a regard for the *Journal* and its exceedingly able editor that these statements came to us as something of a shock when we read them. To us this appeared as a decidedly dangerous, and withal wholly unsupported, doctrine, that it would not be right to permit to go unchallenged. The general consensus of opinion is against it, the evidence of experiment is against it, and clinical experience in no way supports it. During the month of May Dr. E. L. Manson, of Fort Assinaboine, Montana, had two very interesting articles in the *Journal* upon the subject of Diabetes Mellitus. One of these was the source of inspiration for the editorial to which we refer. Dr. Munson's contention that diabetic patients require sugar in their diet more than healthy people do is against all reason and experience. We fear that the editor's friendship for Dr. Munson has led him to write as he did as a sort of apology. It is an established fact that an excess of dextrose is a serious irritant to the system, and in proportion to its increase in the urine are " symptoms proportionately grave. No doubt dietetic restrictions have been carried to an extrême by some physicians. What is there that is not carried to an extreme by those who follow arbitrary rules they do not understand, instead of observing cool reason and common sense. Because there are extremists is no reason we should entertain the idea that the principle on which the restricted diet was advanced should be discarded and our patients injured by the reckless giving of any given food-element in excess of the ability of the system to dispose of it. We doubt if any one ever held, as the *Journal* asserts, that excessive sugar *excretion* produces the whole series of morbid phenomena or even any part of them. It is not the excretion that does the harm, but the excess in the blood, and the failure of the tissues to get what they need, of which this excretion is merely an index.

The elimination of so much unassimilable, irritable, and therefore poisonous matter must be a blessing to the patient instead of an evil. Nature evidently does its best to get rid of this excess of sugar by making the patient thirsty and thus forcing him to drink an unusual amount of water so as to wash it away. In most forms of mild intoxication there is thirst, and the satisfying of the demands of the same enables the system to remove the danger. The thirst following all forms of fever may have a distinctly conservative function in that the water it compels the patient to drink may enable the bacterial poisons to be washed away with greater rapidity. But for the polyuria of diabetes mellitus it is quite likely that sufferers from this disease would die within a few days or weeks of its development. As it is, the increase of urine is probably in the direct ratio of the excess of sugar to be eliminated. The thirst follows in the same ratio.

AMONG THE EDITORS

PROGRESS BLESSES HUMANITY AT LARGE, BUT OFTEN CRUSHES THE SINGLE INDIVIDUAL

Change is an inevitable attendant upon progress; and with change come both burdens and blessings. Competition creates effort and use, which in turn begets development, and with this development comes strength, and strength excessively developed naturally tends to selfishness and tyranny. Hence it is that competition easily and readily becomes a power, which brings in its wake all of the attendant evils pertaining to selfish, overbearing power. Strength is at all times a necessary and natural enemy to weakness.

Competition, then, is the natural creator of a selfish, determined tyranny, as its very motive and practice must arise from combative effort. Competition in the medical profession of to-day is assuming phases not only forceful, but it would seem almost devastating, to individual effort. The single individual is now incompetent to successfully struggle unless he has the help of some aiding combine. Supply and demand are all powerful ruling elements in the body politic, and in medicine the supply of physicians is far in excess of the demand for their services; hence, as a field for competence and success it offers, indeed, but little. The causes are numerous and potent which have led to this, and they seem to become more and more potent day by day. For in the course of progress in medicine, a plethora of doctors unceasingly is manifest, while the field for their operations notably becomes contracted. It is an undeniable fact, and one hard to realize, that the more progress attained in the science of medicine, particularly preventive medicine, the less the demand for the physician's services.

Now, while this demand is lessening, yet every element enticing persons to study medicine becomes more potently operative. The daily papers resound and redound with the wonders accomplished in the progress of medicine. From their glowing accounts many a father of a family naturally concludes that it must be a profession which will enable his sons to reap riches and honors. Appearances are eternally deceptive. 'Tis a notable fact that a farmer's poor crop has added to the ranks of physicians.. To better illustrate this, let us draw a picture which will apply to the many thousands of farmers in our land. It is in the fall of the year, the crop has been a failure, the day is about over, and as a glowing sun sets the farmer, as he musefully stands at his gate cogitating concerning the uncertainties of his business, finds that his years of labor have either brought naught or, perchance worse, debt and loss. As he thus stands and muses, the doctor of the neighborhood rides by. The farmer sees him and muses the more; his, the doctor's life seems to the farmer as a vocation of ease and splendor. Always well dressed, a clean, sure, and respectable business; failure does not eternally stare him in the face; there are not years and years of uncertain labor; there is not the wearing, grinding trial to beset him the same as with the farmer. There may be 90 per cent. of failure in an agricultural and mercantile life, while failure is, indeed, rare among doctors. Then and there he determines to make his son a doctor and not a farmer.—*Railway Surgeon.*

INFLUENCE OF GENERAL DISEASES UPON THE TEETH

At a recent session of the Association for Internal Medicine, in Berlin, Dr. Neumann delivered an instructive address on this topic, presenting in evidence more than a thousand teeth. He held that the erosions began in children usually during the first five months of life. They are nearly always associated with rachitis, especially of the skull (Hutchinson's teeth not now considered). In Hutchinson's teeth the whole tooth is altered in shape by disease, being in this distinct from the normally shaped though thin and eroded teeth above mentioned.

The Hutchinson's teeth are not only misshapen, but they stand away from one another, are turned on their axes, and lack the second of the three little hillocks which form the cutting edge of each normal upper middle incisor. There is an antero-posterior valley where this hillock should be. There are several modifications of the Hutchinson's tooth of less importance. The diagnosis of syphilis founded upon the presence of Hutchinson's teeth can be certainly made only when rachitis is positvely excluded, and this is sometimes difficult, because Hutchinson's are unfamiliar. In thirteen children hereditarily syphilitic Dr. Neumann found only four Hutchinson's teeth.

Dr. Neumann then referred to the superficial caries of the milk-teeth which may begin with the very first glimpse of the erupting tooth, and which is often associated with nervous diseases; and closed with a description of the grey-green, or brown "circular caries" which attacks the milk-teeth very soon after their eruption and may attack even the bone below. He thought it was most frequently associated with "scrofula" or tuberculosis.

In the discussion, Dr. Ewald stated that the staff of the Augusta Hospital Polyclinic were, after long investigation, still doubtful whether a positive diagnosis of syphilis ought to be made from the presence of Hutchinson's teeth without other symptoms or history.

To these reports, taken from the *Deutsche medicinische Wochenschrift* of March 18th, the writer would add that a prominent Baltimore dentist advises all of his patients who have had enteric fever to submit their teeth frequently to his inspection during the year following convalescence, because even the finest sets of teeth are apt to decay badly after that great fever.—*Maryland Med. Journal.*

AN ARMY OF MEDICAL MEN

We saw it recently stated that there were about 85,000 physicians in the United States. We do not vouch for the correctness of this number, but we are inclined to believe that it is a very conservative estimate.

Eighty-five thousand doctors! Think of it. All this number in our country, unless the newspapers inform us falsely. In 1860 there were 55,000. What an increase!

Ought not these figures to "give us pause?" Reflect a moment what an army they would make, even in this day of big armies; or what a city they would form, larger than any in many of the oldest States.

Or, look at it again from another point of view. What a mint of money it takes to support this army! Probably we are within the mark when we calculate that the income of the 85,000 from practice is $1000 a year each. This makes $85,000,000 a year, which the sick pay for medical advice. For their medicines it is safe to say they pay say $25,000,000, which makes it $110,000,000 a year, as what sickness costs the American people. And in this calculation we have left altogether out of account the tons and hogsheads of quack medicines which this misguided people pour down their throats. We could safely estimate that at $25,000,000 a year more.

As we are economical in spirit, would it not be well to save some of this? Can it not be done? Let the people study these figures a while, and then reflect that probably one-half, or certainly a large fraction of the expense, is incurred by a deliberate infraction of the laws of health; that if they tippled less, smoked less, overworked less, were given less to lechery and wantonness, ate slower, exercised more judiciously, were less "fast," and less self-indulgent, they would save some thirty or forty millions a year. When hygiene is at a loss for any other argument, she can appeal to frugality, and statistics will show that the appeal is a wise one.—*Mass. Med. Jour.*

"ANTI-VIVISECTION"

A speaker at one of the banquets held during the session of the American Medical Association said that there was a room reserved in hell for the medical profession, for it was a place paved with good resolutions, and the profession of this country had been doing nothing but resoluting ever since their attention was called to the anti-vivisection bill. Now is the time for action; resolutions will do no good. What is needed is personal appeals to the senators and members of Congress.

Compassion with the suffering is a virtue; indeed, it is that virtue which in itself constitutes humaneness, and which, wherever absent, changes a man into a brute, a wild beast of prey. Let us, therefore, by all means foster this gentlest of all virtues, which is the main jewel in the crown of the two greatest religious leaders of the world—Jesus the Nazarene, and Gautama the Shakyamuni. But compassion should not be allowed to grow rank. Compassion is a sentiment; and he who yields to sentiments, without subjecting their exercise to criticism and discrimination, ceases to be a man of moral responsibility and degenerates into a creature of instinct. Compassion as a blind instinct is unquestionably a nobler fault than wrath, but as a passion it is a fault, it is sentimentalism, and its influence can become the more baneful the less its deficiencies are anticipated. Thus an untruth in the mouth of the erring, who honestly believe it to be a truth, may be more dangerous than an ethical falsehood pronounced by a liar.

The anti-vivisection movement, as it is carried on, is in this sense guilty of immorality, and we deem it our duty to state our views of the subject openly and frankly. We do not doubt that the anti-vivisectionists are noble men and women ensouled with the noblest of all virtues, compassion for the suffering, but they lack upon the whole the most essential of all virtues, which is thought, discrimination, discretion, consideration of consequences, a surveying of the situation, and a weighing of the implications of the question as well as the results to which it leads.

We all know that vivisection is not a pleasant duty of the physiologist, but it is an indispensable task that must be done for the sake of investigation. Should science neglect to search for light in this most important domain, the domain of life, its representatives would be guilty of a gross neglect of duty. They would be like generals who would retreat before the enemy because the enemy's bullets endanger the lives of their soldiers. They would be like an officer in the fire department who, inspired by the idea of not causing pain to anybody, would recall his men from the burning building when they ought to rescue its inmates, because the firemen might blister their hands.

Vivisection may truly have, and frequently will have, the tendency of blunting the sentiments of the vivisector; but so does dissection. Shall we surrender dissection as an obligatory part of medical instruction lest the moral sense of the student be shocked? There are a few quack schools of medicine in this country which undertake to educate physicians, but their degrees should not be recognized, for they leave their graduates ignorant on one, perhaps on several, most important subjects. It is true enough that the human body in its wretched nakedness is subjected on the dissection-table to most undignified treatment, which is liable to make the student vulgar and rude; but for that reason we cannot abandon dissection.

The anti-vivisection movement might be excusable if there were any valid arguments to prove that vivisection is useless. But the very opposite is the case. Innumerable discoveries of the most beneficent kind have been made through experiments on animals. —*Mathews' Quarterly Journal.*

THE X-RAY IN COURT

A Chicago judge has recently decided that the X-ray is not competent evidence, and has excluded it from his court as testimony. This seems strange, in view of the fact that on two occasions in New York and once in Ohio, this agent has been admitted to be proper evidence.

In the case in question, a man employed in a printing office was injured about the ankle by a piece of machinery falling on it. He brought suit for damages, claiming the leg had been crushed. It would seem as if this was a very good case for the machinations of the ray. The injury might have been confined to the soft parts or involved the bones also.

The whole incident clearly shows the great difference between law and medicine. The former is governed by precedent, and seems centuries behind its sister profession. The doctor is at liberty to take advantage of each new development or discovery, and is quick to do so. The lawyer has to grope in the musty records of the past and ascertain what Blackstone, or Coke, or Lord Mansfield thought, or wrote, before he can make use of his knowledge.—*Railway Surgeon.*

SELECTED PAPER

THE PHYSIOLOGY OF INTERNAL SECRETIONS*

By PROF. W. H. HOWELL, of Johns Hopkins University

WE owe the term "internal secretions" to Brown-Séquard,[1] by whom it was first used in published communications dating from 1891. The essential idea conveyed by the expression, however, is not new, as it has been stated more or less clearly by many previous writers in their speculations upon the probable functions of the so-called ductless or vascular glands. It had long been recognized that these glands possess no excretory ducts, and that, therefore, whatever secretion they may produce probably enters the blood either directly or by way of the lymph. Haller[2] is credited with stating this view with regard to the thyroid as early as 1776, and according to Pettit,[3] a similar view was advanced by Schmidt in 1785 with regard to the suprarenals. Toward the middle of the present century this belief was generally accepted for such glands as the thyroid, suprarenals, thymus, hopophysis cerebri, and spleen, but as early as 1869 Brown-Séquard seems to have suggested the view that all glands, whether possessed of excretory ducts or not, give off something to the blood that is of importance in the general nutrition of the organism. From 1889 his ideas took definite shape in numerous publications[4] upon the physiological effects of injections of extracts of the testis. At first he did not use the term internal secretion, and seems to have held the view, so far as the testis is concerned, that the material furnished to the blood is absorbed from the external secretion and is normally carried off in part in this secretion.

During this same period the brilliant results of the experiments made upon the

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[*] Paper read at the Fourth Triennial Session of the Congress of American Physicians and Surgeons, and published in the AMERICAN MEDICO-SURGICAL BULLETIN by kind permission of *Science*.

[1] Brown-Séquard and d'Arsonval: Comptes rendus de la Société de Biologie, 1891.

[2] Jones in Todd's Cyclopædia of Anatomy and Physiology: Article on Thyroid Gland.

[3] Pettit: Recherches sur les capsules surrénales, 1896--Paris. Thèse de la Faculté des Sciences.

[4] Brown-Séquard: Archives de Physiologie normale et pathologique, 1889-92.

thyroid glands and the pancreas were forcing themselves upon the attention of physiologists, and these results, together with his own experiments upon the extracts of testis and ovary, and his previously expressed belief as to the possible effect exercised by all glands upon the composition of the blood, seem to have led Brown-Séquard to the generalization expressed in the happy term "internal secretion." The term as used by him was not restricted to the glandular tissues alone, but was meant to signify that all the tissues in the body furnish something of special importance to the blood—that, in fact, every act of nutrition is accompanied by an internal secretion. This broadening of the term to apply to all the tissues is logical, perhaps, but it must be admitted, I think, that so far as our actual knowledge goes it is not justifiable. The evidence derived from experimental investigations and clinical observations indicate that many, although not all, of the glandular tissues of the body as a result of their normal metabolism add something to the blood or affect its composition in some way, and that this activity is either essential or helpful to the maintenance of the normal functions of the organism. In this list we can place such glands as the liver, pancreas, thyroid and parathyroid bodies, suprarenal bodies, hypophysis cerebri, and probably the ovary, testis, thymus, and spleen. But I know of no observations that force us to entertain a similar belief with regard to the non-glandular tissues, such as muscle, nerve, and connective tissue.

So far as I am aware, there is no authorized definition of the term internal secretion, but, if we adhere closely to the facts in the case, the expression may be interpreted to mean certain products that are elaborated by gland-cells from material furnished by the blood, which are afterwards passed back to the blood or lymph stream to subserve some function in general or special nutrition. From the standpoint of mechanism of secretion a useful distinction has been drawn between these internal secretions and secretions of the usual kind, or external secretions. The latter are in all typical cases poured out upon a free epithelial surface that communicates with the exterior, while the internal secretions are discharged upon the close endothelial surfaces of the blood and lymph-vessels.

The definition given by Brown-Séquard, as we have seen, attributed internal secretions to all tissues. As a part of this general conception he was led also to restate what appears to have been a dream of the older physicians, namely, the view that all animal tissues might and ought to be employed in special cases as means of medical treatment, extracts of each organ or tissue being recommended for the particular disease supposed to be due to disturbance of function in the corresponding tissue. This general conclusion seems to have been a wide induction upon the basis of the incomplete facts known at that time with regard to the therapeutical use of extracts of thyroid and testis. It was not entirely justified by actual experience then or now, but the attractive possibilities it presents have doubtless been the cause of much of the general interest manifested in the subject of internal secretions. A new field, hitherto almost unexplored and full of promise for the discovery of medical specifics, seemed to be open to the medical profession, and much activity has been exhibited in exploiting the possibilities of this kind of therapeutical treatment, for which the names opotherapeutics, organotherapeutics and histotherapeutics have already been suggested.

It must be borne in mind, however, that these promises are in large part premature. The one clearly successful method of treatment by animal tissues is the use of thyroid extracts, and the demonstration of the value of this method was the result of rigorous scientific work extending over more than a decade, and was obtained quite independently of the generalization announced by Brown-Séquard. It seems perfectly certain that whatever else of value may come out of the therapeutical application of tissue extracts must also be established by intelligent scientific research, on the side of experimental as well as clinical medicine, and not by indiscriminate and overanxious attempts to secure immediate results.

It is my purpose to-day to call your attention briefly to some of the important results obtained by experimental physiology that tend to prove the existence of internal secretions in a number of glandular organs. The main interest to the physiologist lies, perhaps, in the light this work has thrown upon the functions of the blood-glands, or ductless glands, especially the thyroid, suprarenals, hypophysis cerebri, thymus, and spleen. Forty years ago the physiology of these bodies was not only unknown, but was beyond the reach of intelligent hypotheses. Within recent years facts have accumulated, especially with regard to the thyroid and suprarenals, that give us a new standpoint from which to view their physiology—a standpoint also from which experimental investigations may be planned with reasonable hope of abundant success in the future. I shall not attempt an historical review of recent work in this subject, as this has been given already in numerous general addresses and special papers.[5] I desire only to emphasize what seems to be the outcome of the physiological work that has been done in the last twelve or thirteen years, and to explain briefly the character of the work now in progress.

If we include under the term "thyroid tissue" not only the thyroid body itself, but also the accessory thyroids and the neighboring parathyroids, it has been shown beyond reasonable doubt that complete removal of this tissue in man and the related mammals is followed, as a rule, by serious disturbances of nutrition that are immediately or ultimately fatal to the animal. Moreover, in these cases the reintroduction of thyroid material into the body, whether this introduction be made by grafting the tissue, by subcutaneous or intravascular injections, or by absorption from the alimentary canal, results in an amelioration or even entire removal of the symptoms of malnutrition. The physiologists recall with pleasure that these two fundamental facts were first discovered as the result of experimental work in physiology. The effects of complete thyroidectomy were first described by Schiff[6] in 1856, and the therapeutical use of thyroid tissue arose naturally from the grafting experiments of Schiff[7] in 1884 and the subsequent experiments of Vassale[8] and of Gley[9] upon injections of thyroid extracts. The brilliant results that have followed the use of thyroid tissue in man in cases of myxedema, goiter, etc., are too well known now to require more than a passing reference.

It follows as a logical conclusion from the successful effects attending its therapeutical use, as well as from the evil effects of its destruction or removal, that the thyroid tissue produces, normally, something that is in some way essential to the nutrition of the body. What that something is has been revealed partially by the beautiful chemical and clinical researches of Baumann and Roos. Baumann[10] has succeeded in isolating a substance, thyro-iodin, or iodothyrin, as it has been named more recently, which, according to the experiments of Roos[11] preserves the beneficial effects of thyroid tissue.

The chemical characteristics of this compound will doubtless be presented in Professor Chittenden's paper. It has proved to be a very stable compound, unaffected by boiling, by strong acids and by gastric digestion, and this fact may be taken as a complete disproof of a former view to the effect that the action exerted upon the body by thyroid tissue is due to the presence of special enzymes or ferments. The fact that extracts of thyroid tissue or iodothyrin when absorbed into the blood ameliorate or remove the evil effects resulting from loss of function of the thyroid, seems to prove at once that the normal function of thyroid tissues is not merely to excrete poisonous material from the blood after the manner of the kidneys. It indicates, on the contrary, that these tissues act normally by giving off a material to the blood that in some way affects favorably the nutrition of all or a part of the tissues of the body. In other words, the thyroid tissues form a true internal secretion. Histological research indicates that, so far as the thyroid bodies proper are concerned, this secretion is contained in the so-called colloidal material that accumulates in the interior of the vesicles, and that the mechanism of secretion consists in a rupture of the walls of the vesicles at some point whereby the contents are discharged into the surrounding lymph spaces.[12]

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[5] See especially Abelous: *Revue générale des Sciences*, May 15, 1893

Schäfer: Address in Physiology; Annual Meeting of the British Med. Assoc., London, 1895.

Meltzer: On Thyroid Therapy; *New York Med. Jour.*, May 25, 1895.

[6] Schiff: Untersuchungen über die Zuckerbildung in der Leber, etc., Würzburg, 1895.

[7] Schiff: Revue médicale de la Suisse romande, 1884.

[8] Vassale: Rivista sperimentale di freniatria, etc., Vol. XVI; also Centralblatt f. d. Med. Wiss., 1891.

[9] Gley: Comptes rendus de la Soc. de Biol., 1891.

[10] Baumann: Zeitschrift für physiolog. Chemie, Bd. XXI, 1896; also Bd. XXII.

[11] Roos: Ibid. Bd. XXII.

The most important fact that remains to be discovered is the manner of action of this secretion upon the tissues of the body. At present we can only speculate upon the answer to this problem. More experimental work is required before a definite solution can be reached. To account for the action of the thyroid secretion two main hypotheses have been proposed. According to one hypothesis the function of the secretion is antitoxic. In some way it antagonizes an unknown toxic substance supposed to be formed in the body in the course of normal metabolism. When the thyroid tissues are removed this poisonous material, being imperfectly excreted, accumulates in the blood and produces the fatal symptoms of thyroidectomy by a process of auto-intoxication. The other hypothesis assumes that the secretion of the thyroid acts normally by promoting or regulating the metabolism of other parts of the body, particularly, perhaps, of the nervous tissues. We might designate this as the trophic or neuro-trophic hypothesis. It is less specific than the antitoxic hypothesis, and therefore, perhaps, less objectionable in the present incomplete state of our knowledge; but as no decisive, or even probable, proof can be given for either view, it seems unnecessary to criticise the various facts brought forward in support of one or the other of them. The two great facts to be explained are: first, that complete removal of the thyroid tissues brings on a condition of malnutrition that seems to affect especially the central nervous system; and, second, that injection or ingestion of thyroid extracts while the animal is in this condition restores its metabolism more or less completely to the normal state. While both of these facts are explicable in terms of either of the hypotheses mentioned, the trophic theory does not involve the somewhat strained assumption of an unknown toxic product of metabolism that cannot be got rid of by the usual methods of excretion.

A very interesting phase of thyroid physiology that has recently come to the front is the nature of the functional relationship between parathyroid tissue and thyroid tissue proper, such as is found in the thyroid body and the necessary thyroids. The parathyroids seem to occur in all mammalia. According to a recent description by Kohn[13] there is always one of these bodies on each side attached to the external or posterior surface of the lateral lobes of the thyroid, while in some animals, e. g., the dog, cat and rabbit, there is an additional one on each side, imbedded in the substance of the thyroid lobes. Histologically the structure of these small bodies bears no resemblance to that of the thyroid. They possess the general appearance of embryological tissue, and have, therefore, been regarded usually as an immature form of thyroid tissue, which, under the stimulus of increased functional activity, is capable of developing into normal thyroid structure. Satisfactory evidence is lacking that such a transformation does actually take place under the conditions supposed, as, for example, after complete excision of the two thyroid lobes. On the contrary, the evidence from histology, as well as from embryology, seems to indicate that the two tissues are not only fundamentally different in structure, but possibly are also different in origin.

On the physiological side Gley[14] was the first to prove the great importance of the parathyroids. He showed that in rabbits complete extirpation of the thyroid lobes alone is not followed by a fatal result so long as the parathyroids remain. Removal of both thyroids and parathyroids, however, is in most cases followed by typical symptoms of complete thyroidectomy ending in the death of the animal. This latter result has been contested by some observers, but renewed investigations have demonstrated its accuracy. Gley explained his results on the hypothesis that after removal of the thyroid its function is vicariously assumed by the parathyroids. He concluded, therefore, that the functional value of the two tissues is identical. Recent work, however, tends to throw doubt upon this conclusion. Vassale and Generali[15] state that in dogs and cats removal of all four parathyroids produces the acute symptoms of complete thyroidectomy, and finally causes the death of the animal, in spite of the fact that the thyroid body proper is left practically uninjured. On the other hand, complete removal of the thyroid lobes is not immediately injurious to the animal, provided the parathyroids—or, in some cases, if even only one of the parathyroids—are left. They contend, therefore, that the result in dogs and cats usually attributed to extirpation of the thyroids is due in reality to the simultaneous removal of the parathyroids.

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[12] Biondi: Berliner klinische Wochenschrift, 1888. Langendorff: Archiv für Physiologie, 1889, Suppl. Bd. Schmid: Archiv für mik. Anatomie, 1896.

[13] Kohn: Archiv für mik. Anatomie. Bd. 44, 1894.

[14] Gley: Archives de Physiologie nomale et pathologique, 1892.

This result is partly confirmed by the independent experiments of Rouxeau[16] and of Gley.[17] The former finds that in rabbits complete removal of the thyroids alone causes no trouble, at least no immediate trouble, while excision of the external parathyroids alone is followed frequently by death, or by convulsive symptoms. Gley reports some incomplete experiments upon rabbits and dogs that tend in the same direction. Finally, Moussu,[18] from experiments made upon mammals and birds, attempts to define in general terms the difference in function between thyroid and parathyroid tissue. According to his experiments, removal of the parathyroids alone is followed by certain acute troubles, such as have been usually described as the result of complete thyroidectomy, while removal of the thyroid lobes alone is followed by chronic troubles of nutrition which he designates as myxedematous or atrophic cretinism. This last result has not been confirmed, so far as I am aware, by others, so that it cannot be accepted with entire confidence. It will be noted, however, that the tendency of this recent work is to show that the functional value of the thyroids and parathyroids is not identical, and that the importance hitherto attributed to the thyroids must be assigned, in part at least, to the parathyroids. The very great interest that these results may have been applied to human pathology and therapeutics will be evident to everyone.

Finally, a word may be said as to the possibility that other tissues exist in the body capable of replacing entirely or in part the functions normally performed by the thyroids or the parathyroids. This possibility seems to be indicated by the fact, commented on by most experimenters in this field, that occasionally animals are found in which apparently complete removal of all the thyroid tissue, including the parathyroids, is not followed by a fatal result. Such cases may be explained by assuming the existence of accessory thyroids or parathyroids that escape the attention of the operator, but it is also possible that they may be due to the fact that there are other organs in the body that possess a thyroid function. Experiments in this direction have been made upon the spleen and the hypophysis cerebri. With regard to the former organ the results may be considered as entirely negative, while as regards the hypophysis the evidence is unsatisfactory. Some details concerning this last organ will be presented later.

The results of recent physiological experiments upon the suprarenal bodies have not been less interesting, although less complete than those upon the thyroid. These curious bodies, like the thyroid, are found constantly in all classes of the vertebrates, and seem, therefore, to be organs of fundamental importance. As long ago as 1856 Brown-Séquard[19] stated that extirpation of both suprarenals is usually fatal to the animal, death occurring generally very shortly after the operation, more rapidly, according to this observer, than after removal of both kidneys. This statement has been questioned frequently by other observers, but the results of the renewed investigations that have followed upon the recent revival of interest in the physiology of the ductless glands seem to corroborate fully the account given by Brown-Séquard. In the case of dogs, according to Szymonowicz,[20] death follows the operation within fifteen hours. It has been shown, also, that in some species of animals accessory suprarenals are not uncommon, and it is possible that this fact may explain the survival of a certain number of animals after supposed complete extirpation of the suprarenals. Removal of only one suprarenal does not appear to cause any noticeable trouble. In the case of complete removal, followed by a fatal result, the prominent symptoms preceding death are extreme muscular weakness, asthenia, and, in the case of dogs examined during this period, a great fall in blood-pressure, together with a feeble heart-beat. It will be noted that in cases of Addison's disease in man the important symptoms, in addition to the pigmentation, are also an asthenic condition of the muscles and the heart. What explanation have we to offer for the surprisingly profound effect produced upon the body by the removal of these small organs?

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[15] **Vassale and Generali: Archives italiennes de Biologie, XXV and XXVI, 1896.**

[16] **Rouxeau: Comptes rendus de la Soc. de Biologie, Jan. 9, 1897.**

[17] **Gley: Ibid.**

[18] **Moussu: Ibid, Jan. 16, 1897.**

[19] **Brown-Séquard: Comptes rendus de l'Acad. des Sciences, XLIII, 1856. *Journal de la Physiologie*, I., 18**

Unquestionably, the most significant facts with regard to this problem have been obtained from a study of the effects of injections of suprarenal extracts into living animals. A number of the earlier experiments of this kind, especially those performed upon rabbits, resulted in the death of the animal, the preceding symptoms being convulsive movements, followed by some paralysis. The really valuable results, however, have been obtained by a more exact study of the effects of such injections upon the vascular and respiratory organs. Most of our knowledge upon these points has been derived from the researches of Oliver and Schäfer[21] and Cybulski and Szymonowicz.[22] These two sets of investigators publisned their results nearly simultaneously. The important facts determined by them, and since corroborated in many laboratories, are as follows: Extracts of the medulla of the suprarenal bodies injected into the veins of a living animal cause a pronounced slowing of the heart-beat and a large rise of blood pressure. If the animal is first given atropin to paralyze the inhibitory nerves to the heart, or if the vagi are previously cut, the injection causes usually a marked quickening, instead of a slowing of the heart-beat, and a greater, indeed often an extraordinary rise of blood pressure. The respiratory organs are not affected so seriously, a temporary slowing and shallowing of the respiratory movements being the result usually noticed. The effect upon the heart and blood vessels is quite temporary. Its exact duration depends somewhat upon the dose, and in part upon other less evident conditions, but, as a rule, within a very few minutes the rise in blood pressure, as well as the slowing of the heart-beat, passes off completely. New injections will bring out promptly a return of the effect described, although a continued repetition of the injections at too close intervals results in a progressive diminution of their action. Tying off the kidneys does not appear to prolong the effects of an injection, so that we may conclude that the temporary character of the result produced is not caused by a rapid elimination of the active substance through the kidneys, although, according to Szymonowicz, a part of it, at least, is got rid of by this means. The rapid disappearance, however, of the effects of a maximal or supramaximal dose indicates that the active substance is either quickly destroyed in the tissues or is neutralized in some unknown way.

The physiological explanation of the slowing of the heart caused by the suprarenal extracts offers no difficulties. Since this effect disappears completely upon section of the vagi or after the injection of a few milligrams of atropin, it can only be due to a stimulating action upon the central endings of the inhibitory fibers, that is, upon the so-called cardio-inhibitory center in the medulla. According to Oliver and Schäfer the inhibitory effect is felt mainly upon the auricles. The beats of this part of the heart become weaker and slower and may cease altogether while the ventricular beats, although slower, are more vigorous. After the vagi have been cut, suprarenal extracts cause a quicker and, according to Oliver and Schäfer, who measured the extent of the contractions directly, a stronger beat. This accelerating effect upon the heart after removal of the inhibitory fibers is not due, as we might at first suppose, to a stimulation of the central ends of the accelerator fibers, since it is still obtained after section of the cord in the neck, or after extirpation of the first thoracic ganglia. It must, therefore, be due to a peripheral action of the extracts upon tne heart itself, either upon the muscle of the heart directly (Oliver and Schäfer) or upon the so-called motor ganglia (Szymonowicz, Gottlieb).

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[20] Szymonowicz: Archiv f. d. gesammte Physiologie, LXIV, 1896.

[21] Oliver and Schäfer: *Journal of Physiology*, XVIII, 1895.

[22] Cybulski and Szymonowicz: *Gazeta Lekarska*, 1895. (Abstracted in Jahresb. d. Thier-Chimie, 1895.) Also Szymonowicz: Archiv. für d. gesammte Physiologie, LXIV, 1896.

The effect of the injections upon blood-pressure has been explained differently by those engaged in the work. Both Oliver and Schäfer, and Cybulski and Szymonowicz, believe that the enormous rise in blood-pressure is due mainly to a great constriction of the arterioles. According to the latter this constriction is brought about by a stimulating action of the extracts upon the vaso-motor centers in the medulla and cord, while according to Oliver and Schäfer the action is exerted directly on the muscles of the blood vessels. Szymonowicz admits that if the cord is cut just below the medulla a great rise of pressure can still be obtained, but he explains this by supposing that the extract acts on the spinal centers. He asserts that if the entire cord is destroyed a rise of pressure can no longer be obtained. The experiment that he gives to illustrate this last point is, however, far from being convincing. The protocol of the experiment shows that the act of destroying the cord in itself reduced the blood-pressure to zero. Moreover, Biedl [23] reports that he has been able to get a rise in pressure from injection of the extracts after complete extirpation of the cord. The evidence, therefore, seems to favor the view proposed by Oliver and Schäfer, and this view is still further supported by the fact that when the volume of a limb is measured plethysmographically it often shows a distinct diminution after suprarenal injection, even though its nervous connections with the central nervous system are entirely severed.

There are, however, some facts reported in the experiments made by different observers which indicate that the assumed action of the substance on the peripheral arteries does not alone account for all the changes produced in blood-pressure. It is probable that the greater force of the heart-beat plays an important part, as Gottlieb[24] contends, in causing the increase of arterial tension. Thus Szymonowicz reports measurements of the pressure in the external jugular vein made during one of his experiments. According to this report the venous pressure rose and fell with the arterial pressure, which is not what one would expect to occur in the case of a general constriction affecting the arterioles alone. According to Bayliss and Hill,[25] also, the general venous pressure increases with the rise in arterial pressure. So in a number of the published tracings given by Oliver and Schäfer it appears that the vasoconstriction was more pronounced in the abdominal viscera than in the limbs, since the volume of the latter measured plethysmographically showed an increase of a passive character, apparently, while the volume of the kidney or spleen was greatly diminished.

The significance of the marked reaction exhibited by suprarenal extracts depends very largely upon the possibility of proving that the substance producing the reaction is formed normally within the gland. It is conceivable, of course, that in the dead gland post-mortem changes might cause the formation of a substance giving this reaction, although under the normal conditions of life it might not exist. Fortunately, we have direct proof that the active substance in question is a normal product of the metabolism in the gland. Cybulski and

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[23] Biedl: Wien. klin. Wochenschrift, IX, 1896.

[24] Gottlieb: Archiv f. exper. Pathologie u. Pharmakologie, XXXVIII, 1897.

[25] Bayliss and Hill: *Journal of Physiology*, XVIII p. 352, 1895.

Szymonowicz found that blood drawn from the suprarenal vein, when injected into the circulation of a normal animal, gives the same effect although less in amount, as extracts of the suprarenal glands, while blood from other veins has no such action. This result has been denied by Oliver and Schäfer, apparently upon insufficient experimental grounds. Langlois,[26], on the contrary, has been able to corroborate this effect of suprarenal blood, and, in the laboratory at Baltimore, Dr. Dreyer has obtained clear proof of a similar action. It appears from Dreyer's experiments that the effect is not obtained in every animal, but in some cases the results are very positive, and in a matter of this kind the positive evidence is the most important. When we remember that we are dealing most probably with a material formed by the secretory activity of gland cells, and that the amount of this material may vary at different times or under different circumstances, it is not surprising that negative as well as positive results are obtained.

Since it seems certain that the substance does occur under normal conditions in the venous blood flowing from the gland, we are justified in concluding that it is a normal product of the metabolism of the medullary cells of the gland, and that it is discharged or secreted directly into the blood. It must, therefore, exert continually a stimulating effect upon the heart and blood-vessels. In corroboration of this last conclusion we have some striking experiments recorded by Szymonowicz which show that after complete extirpation of the two glands the blood-pressure becomes greatly depressed. Both Oliver and Schäfer, and Cybulski and Szymonowicz, conclude that the normal function of the suprarenals consists in furnishing this stimulating substance to the blood. The former observers believe that its effect is mainly upon the muscular tissue; that it has a gentle tonic or augmenting action on all varieties of muscle found in the body—the striated muscle as well as the cardiac and plain muscle-tissue. Cybulski and Szymonowicz hold essentially the same general view, except that they believe that the substance acts upon the nerve-centers controlling the muscular tissues rather than on those tissues directly. It is perhaps impossible at present to decide as to this detail. Oliver and Schäfer have shown, without much doubt, that the substance acts upon the blood-vessels after their connections with the central nervous system have been completely severed, and, on the other hand, there is clear proof that it affects at least one part of the central nervous system, namely, the cardio-inhibitory center. Further experimenting will probably soon furnish more definite information upon the extent to which the muscular and the nervous tissues are affected by this substance. Upon either of the views proposed we can understand at once why removal of the suprarenals brings on a condition of muscular asthenia, and why the continual activity of these organs is so essential to the body as a whole. It is significant, in this connection, to recall that Oliver and Schäfer found that extracts of the suprarenals, in cases of Addison's disease, did not contain this stimulating substance. The hypothesis that the suprarenals secrete a stimulating substance that augments the tone of the muscular system, either directly or indirectly, is not the only one offered to explain the physiology of these bodies. According to some observers the main function of the suprarenals, like that of the thyroids, is to produce an antitoxic secretion capable of neutralizing or destroying certain poisonous products of body metabolism. The toxic products in this case have been supposed to originate in the functional metabolism of muscular tissue, and the asthenic condition following upon extirpation of the suprarenals has been compared with the similar effect produced by injecting the extracts of fatigued muscles into the circulation. The main argument of those who hold to this view seems to rest upon the fact that the blood of an animal that has been deprived of its suprarenals and is beginning to show the typical effects has a toxic effect when injected into the circulation of another animal from which the suprarenals have been removed shortly before. The fatal symptoms are brought on by the injection more rapidly than would happen otherwise. One cannot feel a great deal of confidence in this argument as contrasted with the apparently direct evidence offered in favor of the stimulation hypothesis.

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[26] **Langlois:** Archives de Physiologie normale et pathologique, 152, 1897.

Unfortunately, the physiological evidence with regard to the importance of the suprarenals to the body has not found so satisfactory an application in practical medicine as in the case of the thyroids. Suprarenal extracts and tissue have been used in cases of Addison's disease, but the beneficial effects obtained have not been so clear as in the case of thyroid extracts. Some of the results reported, however, indicate that the method is at least a hopeful one in certain cases.

A third interesting member of the group of ductless glands is the hypophysis cerebri, and a few words may be said as to its supposed physiological activity. This gland is commonly described as consisting of two parts, the anterior and the posterior lobe. The histology and the embryology of the two parts indicate that they are entirely different in origin and in structure. The anterior lobe is evidently a glandular structure. It develops originally as a sacular invagination from the buccal epithelium, and has essentially the same origin in all the vetebrates that have been examined. According to Haller,[27] it is not strictly a ductless gland, since it possesses an imperfectly developed system of ducts that opens between the dura and the pia mater. It is evidently a secreting structure, and the fact that its secretion is discharged between the meningeal membranes suggests some special connection with the physiology of the brain. Histologically its structure recalls that of the thyroid gland, particularly in the fact that a colloidal material is said to occur frequently in the lumina of the gland tubules. In some animals, e. g., the dog and the cat, it is a very small body, but in others, as the rabbit sheep, ox, and man, it is of considerable size and bears every indication in its structure of being an active secretory organ.

The posterior lobe, on the contrary, is very small in all animals and has the appearance of being a rudimentary organ. It develops as an outgrowth from the infundibulum of the brain and is more properly spoken of as the infundibular lobe. Its histology is very incompletely known. According to Berkley[28] it contains numerous typical nerve-cells, ependymal cells and neuroglia, a number of glandular epithelial cells arranged in part to form tubes or closed vesicles that contain a colloidal material, and some curious structures resembling nerve and organs.

The observations bearing upon the functions of the hypophysis have been limited to the glandular lobe. On the pathological side it has been shown that in many, if not in most, of the cases of acromegalia the glandular lobe exhibits pathological changes. For this reason extracts of the gland have been used therapeutically in cases of acromegalia, and, according to some reports, benefits have followed the treatment to the extent that some of the disagreeable features have shown amelioration. The evidence from this side, however, is not satisfactory, and the nature of the connection between acromegalia and disturbance of the function of hypophysis, if any exists, needs more complete investigation.

The experiments made by the physiologists are also meagre and inconclusive. Gley[29] reports a set of experiments made upon rabbits, in which he attempted to destroy the gland by an operation from above. The experiments were made upon rabbits from which the thyroid lobes had been removed previously, with the idea of demonstrating that a similarity in function exists between the thyroid and hypophysis. All but one of the animals died, owing to the severity of the operation. In the single survivor it was noted that the animal exhibited at times spasmodic muscular contractions and some degree of paresis, and that it died in about a year after the operation. On the assumption that the animal would have lived if the thyroid lobes alone had been removed, Gley concluded that the removal of the hypophysis had prevented the parathyroids from replacing completely the loss of the thyroid, and that, therefore, the hypophysis is related in function to the thyroid tissue. Naturally but little importance can be attached to a single experiment of this kind, and, so far as I know, the author has not repeated the investigation. Vassale and Sacchi[30] claim to have removed the hypophysis partially or completely in a number of animals by an operation through the base of the skull. In cases of complete removal the animal died within a short time—fourteen days or less—after exhibiting a number of symptoms similar to those caused by thyroidectomy, such as muscular tremors and spasms and the development of a cachectic condition. Most physiologists, I fancy, will accept these experiments also with some hesitation until they have been confirmed by other observers. The very severe character of the operation necessary to reach the gland makes it questionable whether the results reported were due to its removal alone, although the experiments were evidently made with great care.

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[27] Morphologisches Jahrbuch, XXV, 1896.

[28] Berkley: The Johns Hopkins Hospital Reports, IV, 1895.

[29] Gley: Archives de Physiologie normale et pathologique, 1892, 311.

Szymonowicz and also Oliver and Schäfer report experiments upon the effects of injections of extracts of hypophysis into the circulation of normal animals. Szymonowicz states that in two experiments he obtained a slight fall pressure and a quickening of the heart-beat. He concludes, therefore, that the physiological action of these extracts is opposed to that caused by extracts of the suprarenals. Oliver and Schäfer, on the contrary, report that extracts of hypophysis exert an effect very similar in some ways to that shown by suprarenal extracts. For instance, they cause a marked rise of blood-pressure, together with an augmentation of the heart-beat. Unlike the suprarenal extracts, however, they do not produce a slowing of the heart-rate when the vagi are intact. Upon the basis of these incomplete experiments they draw the somewhat hasty conclusion that the hypophysis and the thyroid are not similar in function, and that the hypophysis is not capable of assuming vicariously the activities of the thyroid.

I have recently made a number of experiments upon this organ, the results of which have been quite uniform and in many respects very different from those obtained by the authors just quoted. My experiments were made with the hypophysis of sheep mainly, although at first the gland of the dog was also used. The extracts were made in normal saline, or in glycerin followed by dilution with normal saline, and usually the fresh gland was employed. The experiments differed from those reported by others, in that extracts were made separately of the glandular and the infundibular lobe, and the physiological effects of each were tested by injection into the circulation of normal dogs. It was found that the extracts of the glandular lobe have little or no perceptible effect when injected alone. Extracts of the small infundibular lobe, on the contrary, have a distinct and remarkable effect upon the heart-rate and blood-pressure, an effect which resembles in some respects and differs in others from that shown by suprarenal extracts.

Briefly stated, these extracts injected into the normal animal with its vagi intact cause a very pronounced slowing of the heart-beat, similar to that caused by suprarenal extracts, but lasting a much longer time. The heart-beat is not only slowed, but is considerably augmented in force, as is shown by tracings taken with a Hürthle manometer. At the same time the blood-pressure rises to a considerable extent, owing, apparently, to a peripheral constriction of the blood-vessels, since oncometric tracings from the kidney show that this organ shrinks greatly in volume. Usually the constriction of the blood-vessels occurs first, so that the pressure rises for about 20 mms. or more of mercury. This is succeeded sometimes by a temporary fall of pressure during which the heart-rate may be increased, and then the slowing of the heart begins, while the pressure rises again to a greater or less extent above the normal. This last effect continues for a relatively long time and passes off gradually. The slowing of the heart may continue for half an hour or longer. If the dose used is a maximal one, and a second injection is given too quickly afterward, little or no effect is obtained. If, however, the dose is not too strong, and sufficient time is given for its action to wear off, a repetition of the effects is obtained, and this may occur a number of times, although the effects decrease progressively in intensity.

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[30] Vassale and Sacchi: Archives ital. de Biologie, XXII, CXXXIII, 1895; also XVIII, 1893.

The effects of the injection are somewhat different if the vagi are previously cut, or if a little atropin is given to paralyze the inhibitory fibers. Under these circumstances the slowing of the heart-rate is very much less marked, although not entirely lacking. In round numbers it may be said that with the vagi intact the heart-rate is reduced about 50 per cent., while in the atropinized animal the reduction is about 20 per cent. It might be added that an animal deeply under ether alone behaves in this respect like an animal with its vagi cut. This result indicates that the slowing of the heart-rate in the normal animal is due in part, but only in part, to a direct action on the medullary centers of the inhibitory fibers. On the other hand, the rise of blood-pressure after section of the vagi is greater. Usually the blood-pressure rises rapidly for about 20 mms. of mercury; this is succeeded in some cases by a temporary fall, and then the pressure again rises rapidly, reaching a height, in some cases, nearly equal to that caused by suprarenal extracts. During this last phase the heart-beats are slower and more powerful, the effect in this respect differing from that caused by suprarenal extracts. The effect lasts longer than with suprarenal extracts, and a longer interval must be allowed before a new injection will give the same result. I have obtained a marked rise of pressure from injection of extracts of the infundibular lobe, after severance of the cord below the medulla, and in one case after removal of most of the thoracic part of the spinal cord in addition, thus indicating that the constriction of the blood-vessels is probably a peripheral effect, and not due to stimulation of the vaso-motor centers. These observations that I present here only incompletely may be taken to indicate that the infundibular lobe of the hypophysis is, in all probability, not a rudimentary organ, but a structure that has some important physiological activity. Moreover, its function is probably different from that of the glandular lobe, and possibly quite independent of it. With regard to the function of the glandular lobe, the method of injecting extracts into the circulation of a normal animal seems to teach us nothing. While the negative results thus obtained do not oppose, they cannot be said to support, the favorite hypothesis that this part of the hypophysis cerebri has a function resembling that of the thyroid lobes. I venture to suggest that this supposed similarity in function might be tested most satisfactorily upon human beings by feeding the gland in cases of myxedema or goiter and ascertaining whether a reaction similar to that caused by the thyroid can be obtained.

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Gastric Crises in Tabes Treated with Oxalate of Cerium

Bul. gén. de Thérap. (No. 4, pp. 108 and 111, 1897), takes from *Vratch*, No. 32, p. 889, 1896, a condensation by N. A. Yourman of a recommendation by P. A. Ostaukow in *Obr. psychnévrol. e expériment. psych.*, 1896.

The author explains the beneficial effects of oxalate of cerium in reducing the vomiting of tabes by experimental study of its action on ammoniacal fermentation of urine as well as on suppuration and development of bacteria. He has assured himself by all these researches of its notable antizymic action and of its influence in preventing overproduction of bacteria. The gastric juice of tabetics being secreted in abundance and its secretion being very acid, it is probable that the oxalate of cerium, for one thing, acts as a calmative by coating the mucous membrane with a protective layer; and, for another thing, hinders fermentations taking place in digestive disturbances produced by the hyperacidity of the gastric juice. Doses of from two to four and a half grains, three to four times a day, shortened the attacks of vomiting; in some cases, as soon as the second day after commencing treatment, the frequency of vomiting was reduced from 200 to six or eight times in twenty-four hours. The third day they were as few as three or less. The pain, nausea, and thirst were all relieved.

H.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

JOSEPH P WINSTON M.D., GEORGE E. WEST, M.D.,
W. J. ROBINSON, M.D., L. SCHÖNEY, M.D.

Acute Yellow Atrophy of the Liver

Dr. J. M. Da Costa, in *University Medical Magazine* (Vol. IX, No. 8, p. 541), states that most of the cases of acute yellow atrophy in men begin with nausea and vomiting, symptoms of derangement of the stomach—in other words, gastro-intestinal catarrh. Referring to diagnosis the writer says that the nearest approach to this condition clinically is seen in phosphorus-poisoning, which occurs among persons working in match factories or those who have swallowed phosphorus. In such cases also are present acute fatty degeneration of the liver and atrophy. But the vomiting and the gastric symptoms are more marked and the nervous symptoms less marked than in the disease under discussion. Further, leucin and tyrosin, as a rule, are not found in the urine. The symptoms are more abrupt in their appearance, and the course more rapid. Yellow fever also resembles acute atrophy; but there you have the injected eye, intense pain in the back and limbs—much greater than the muscular and arthritic pains that may be noticed in acute yellow atrophy—fever with less evidence of local disorder of the liver; and the nervous symptoms are far less prominent than in the affection under consideration. C.

Heredity as a Causative Factor in Disease

Dr. W. S. Gordon, in *Virg. Med. Semi-Monthly*, May 14, 1897, refers to the fact that the physical and psychical qualities and peculiarities, and the diseases of human beings, are frequently observed for generations in their descendants. At the same time, the direct inheritance of diseases has been seriously questioned by writers of sound mind and judgment at the present day, although the same authorities concede that a predisposition to disease is inherited, and that the specific and existing cause must originate either in the individual or be the result of his external environment. In sexual reproduction, the relation of germplasm, or the hereditary substance of the germ-cells, to the somatoplasm, or the protoplasm of the remainder of the body, is as yet an unsolved problem, despite the apparent inheritance by the offspring of traits and peculiarities acquired by the parents. The author goes on to discuss heredity as an admitted fact from the standpoint of modern scientific observation and research, and as applicable to the transmission of anatomical, physiological and psychological resemblances.

The important and practical question arises, to what extent pathological conditions and diseases are inherited. The germ theory of disease now becomes an interesting factor. In certain cases, whether few or many, the same general principles must apply to the inheritance of disease as to the inheritance of normal characteristics. If a pathological character has been acquired by the parent and is not inherent in his own germ-cells, it is extremely doubtful whether it can be passed on to the child. Alienists inform us that in a large and probably increasing proportion of insane patients heredity plays an important causative role. Insanity in the progenitor may be followed by various nervous diseases in the progeny, while nervous disease in the progenitor may be followed by insanity in the offspring. To the author's mind, there is nothing more conclusive of pathological heredity, whether as predisposition or actual disease, than the examples just mentioned. L.

The Hot-Air Treatment in Chronic Rheumatism with Anchylosis

Dr. Sibley (*Med. Times and Hosp. Gaz.*, No. 1003) reports a case of a girl who has had a most severe attack of rheumatism and was left with anchylosis of the right knee and both elbow-joints. She had used crutches for two years; had been unable to walk up and down stairs, to wash her neck, put on her jacket, etc. She fed herself with a large spoon, but with difficulty, as she could not get her hands to her mouth. Her elbows were fixed almost at right angles and completely pronated; no movement (or very little) of either extension, flexion, or rotation; the right knee was anchylosed nearly at a right angle; there was absolutely no movement; muscles of leg and thigh were wasted. The Tallerand-Sheffield hot-air treatment was instituted, and improvement commenced at once. After fifty-four applications the patient was perfectly well. She walked without crutches or a stick, was able to dress and undress, and, in fact, do everything for herself. Her general health had also greatly improved. The method of treatment is briefly as follows:

The apparatus consists of a chamber arranged so that the hand, arm, foot, leg, or even the whole pelvis can be inserted and treated locally. The temperature is gradually raised from 200° F. to 300° F., according to the nature of the disease and the comfort of the patient. The length of time for each bath is usually about an hour. Afterward the limb is removed and gently rubbed down. It is best for the patient to be dressed in flannels to encourage free perspiration. The part thus treated soon perspires, and slowly the whole body becomes moist from perspiration. The pulse and respirations are increased in frequency, and the body temperature is raised one, two, or even three degrees Fahrenheit. Pain is almost at once relieved by the heat, and the parts become more lax and supple. M.

Treatment of Broncho-Pneumonia in Children

In the *Med. Rec.* (Vol. 51, No. 26) Dr. Henry D. Chapin gives a résumé of the treatment of that frequent affection, in young children. Plenty of easily assimilable food, such as milk, broths, raw fresh eggs, kumyss, matzoon, and buttermilk, and also plenty of water, plain or aërated, may be given. Excess should be avoided, to prevent fermentation and flatulent distention of stomach and intestines, which would further impede the respiration. No drug that will interfere with the digestion should be given. The nostrils should be kept perfectly clean by a few drops of albolene, or even by irrigation with an alkaline wash. As long as there are no direct draughts, and the temperature is not below 68-70° F., there is no fear of too much fresh air. To aid the removal and absorption of the mucus, ammonium carbonate (not the chloride) in watery solution is administered in milk every hour or two; or the aromatic spirits of ammonia, 5 to 15 drops, in water. To soothe the bronchial mucous membrane inhalations of pure steam or steam saturated with turpentine, camphor, or tar, are highly recommended. To prevent hypostatic congestion, the child's position must be frequently changed, and should be occasionally held in the arms. Counter irritation to the chest frequently gives relief: Mustard-pastes, in urgent cases dry cups; in average cases the skin is thoroughly rubbed with warm camphorated oil, and a jacket of cotton batting, covered with oiled silk, is applied. When there is dyspnea with cyanosis, ozone and oxygen are very useful. One of the best stimulants to the heart and respiration, as well as the nervous system, is strychnine sulphate. One four-hundredth of a grain may be given to a baby 1 year old, every two, three, or four hours; in urgent cases even larger doses. The most valuable vaso-dilator is nitroglycerine (1-200 grn. every two hours for baby 1 or 2 years old), also sodium nitrite. Whiskey is useful, and a 1-year-old baby may have 30 drops well diluted, every two hours. Aconite should be given with great caution, and digitalis, if administered at all, should always be combined with a vaso-dilator. The temperature, in average cases, does not require treatment. No coal-tar derivatives should be given. Small doses of phenacetin combined with a stimulant may be given for relief of nervous irritation and pain. Application of cold is the best. An ice poultice (made of mixing finely cracked ice with ground flax seed) around and on the top of the head is often effectual. Cool-compresses around the chest are very useful in reducing the temperature, and are used as follows: The child is stripped, wrapped in a blanket, and placed on a table. A stimulant is given, and hot bottles are applied to the feet. A compress sufficient to surround the chest is plunged in water of from 80 to 90° F., applied, changed every ten to fifteen minutes, the temperature of the water being gradually lowered until the desired result is obtained. In intractable fever the temperature of the water may have to be reduced to 40° F. Coldness of the extremities is a contra-indication to the local or general application of cold. M.

Diabetes Treated with Methylene-Blue

At a recent meeting of the Medical Society of the Hospitals (*Medical Week*, Vol. V, No. 19), Dr. Marie reported the case of a diabetic patient under his observation, who excreted daily thirty-seven grammes of sugar, the glycosuria disappearing completely as the result of the administration for about a fortnight of between sixty and 120 centigrammes daily of methylene-blue. The patient, however, having at the same time observed the special diabetic diet, it is impossible to determine exactly the part played by the methylene-blue in the disappearance of the sugar from the urine. B.

Treatment of Acute Gout

Jaccoud, in *Med. Times*, No. 1001, divides this subject into three parts, according as one has to deal with the acute attack proper, the subacute attack, or the recurrent disease. In the first case he does nothing during the first five days, except to promote diuresis by the most simple means, such as the administration of a litre or so of Evian or Vittel water daily, with perhaps the addition of a little potassium acetate; he does not even give milk, preferring that the "explosive energy" of the disease shall be expended on the organic tissues themselves. He applies anodyne embrocations to the joints, and covers up the parts with a thick coat of wadding. At the end of this time, if the fever and pains have subsided, the attack is nearing its end, and no further treatment is necessary; milk should now always be given. If no improvement has taken place he gives 1½ grn. of quinine hydrobromate with ¾ grn. of digitalis powder in pill-form, five or six times a day; this usually produces the desired effect within two days. If the pains are worse on the fifth day than at the outset, sodium salicylate in from 30- to 40-grn. doses should be given, provided the urine is free from albumin; after the second dose the urine is to be tested with ferric chloride, and if the salicylate reaction is feeble or wanting, the drug must be stopped. In the subacute form of the disease—which is characterized mainly by its prolonged duration—if this treatment, though diminishing the pains, does not cut short the attack on the ninth or tenth day, recourse must be had to colchicum. This the author prefers to give in the form of pills; he recommends Becquerel's formula, each pill containing ½ grn. of extract of digitalis, 2 grn. of quinine sulphate (or preferably hydrobromate), and ½ grn. of colchicum seeds. Not more than two pills should be given a day, to avoid the risk of excessive purgation. No special antigout medication is to be employed between the attacks. The theatment of recurrent gout resembles that of the subacute form. Visceral gout, unassociated with articular symptoms, is a late complication, only coming on after years of typical gout; if there is no joint affection within twenty-four hours, colchicum is to be given at once. At the same time the joints usually affected are to be covered with powerful revulsants and vigorously blistered. Whether this abortive treatment succeeds or not, it is always to be adopted. M.

Effect of Fasting, and Meat and Vegetable Diets on Removal of Salts by Kidneys

The *Medical Record* of New York (March 20, 1897, p. 410), gives an account from the *Medical Review* of the latest researches by Debogorie-Mokriewitsch on the question of the absorption and elimination of medicinal substances. In 140 experiments on adult persons and dogs, made with potassium iodide and sodium salicylate, given fasting, with a flesh diet, and with a vegetable diet, elimination was prolonged when the food was limited to vegetables. When 4 grn. of potassium iodide were given to a person taking only vegetable diet, the chemical reaction of the salt was found in the urine for fifty-one hours; but in one on a meat diet it was eliminated in thirty-four hours. Sodium salicylate gave the same results: 8 grn. of it were eliminated in twenty-seven hours under vegetable diet and in twenty-three hours under a meat diet. Fasting greatly prolonged elimination. One grn. of potassium iodide was eliminated in twenty-six hours from a dog on flesh diet alone, but not for fifty hours from a dog fasting. Six grn. of sodium salicylate were eliminated in nine hours from a dog fed on meat alone, but not for thirty-four hours from a fasting dog. The conclusions are: (1) There is a close relation between elimination of medicinal substances and the quality and quantity of foods; (2) the length of time for elimination is shorter with a meat than with a vegetable diet; (3) increased feeding increases activity of elimination; (4) fasting greatly prolongs elimination. H.

A Respiratory Symptom of Tobacco-Poisoning

Dr. William S. Morrow (*British Med. Jour.*, June 5, 1897) presents a paper with the object of describing and, as far as possible, explaining a certain peculiarity of breathing met in cases of tobacco-poisoning.

In the experience of the writer it is a very common symptom of excessive use of the "weed," as he has seen three cases in as many years exhibiting it to a marked degree, besides several others in which it was less characteristic. As considerable difficulty was experienced in finding a description of the symptom, it would seem to have been overlooked by most observers, and yet it is believed to be of considerable diagnostic importance.

The phenomenon observed consisted in a deep gasping inspiration occurring at intervals, and sometimes quite audible. This may be practically the only symptom complained of. It is probably due to a paralyzing action of the drug on the respiratory center, affecting especially the expiratory division, but also diminishing the irritability of the whole center to afferent impulses. This symptom may persist from a few days to some months after the poison is discontinued. B.

The Plague—Prophylactic Fluid

Dr. Hoffkine, of the Pasteur Institute (*British Med. Jour.*, No. 1902, p. 1461), who is at present employed by the Government of India in investigating the bubonic plague, has recently published a brief outline of his results. He gives a careful description of the means by which the plague bacillus may be differentiated from numerous other bacilli that more or less closely resemble it.

Utilizing the knowledge gained by Koch in his experiments with the cholera bacillus, viz., that the bodies of Koch's bacilli cultivated on solid media, when inoculated into persons exposed to cholera, produce a reduction of the susceptibility and of the absolute mortality from the disease, but do not affect the case-mortality. Hoffkine attempted to reduce both the susceptibility and the case-mortality as well by combining the bodies of the microbes with the toxins secreted in the surrounding media.

The microbes are killed by a temperature of 70° C., and the nutrient fluid containing the dead microbes, as well as the toxins produced and held in solution, is used for the prophylactic injection. From Jan. 10 to May 6, 1897, 11362 individuals have been inoculated with the fluid. There were but twelve fatal cases; three were already sick at the time of inoculation, and three others contracted the disease within twelve hours of inoculation. A rough estimate would seem to show the inoculated persons suffered to an extent twenty times smaller than the non-inoculated living under the same conditions. D.

Hysterical Hematemesis

At a meeting of the Vienna Medical Club (March 24), Dr. Lederer reported a remarkable case of hysterical (?) bleeding. Within a few weeks the woman vomited twenty-six pints of blood, often in quantities over a pint at a time. Besides, there were hemorrhages from the breasts, from the digital folds, and from the nail-beds; the excretions and secretions also contained blood. The largest amount of blood lost in one day was four and a half pints. In spite of the constant drain of blood, the patient developed no pronounced anemic symptoms. M.

Results of the Treatment of Diphtheria with Behring's Serum (Antitoxin)

In a report recently published (*Neuen Allg. Krankenhause zu Hamburg*), Prof. Rumpf and Dr. Billing cite their results of the above method of treatment, covering the years 1895 and 1896.

The treatment consisted of hypodermic injections of Behring's serum (antitoxin) in doses varying with the severity of the case. Six hundred units, 1000, 1500, and in a few cases 3000 units, were given. In one case 3500 units were injected. In addition to the serum treatment, ice was applied locally. Inhalations of sodium-chloride solution or solution of glycerin and salicylated water, 1-6 per cent., in proportions of 1 : 9, and when possible, gargling with 2½-per-cent. solution of potassium chlorate. Severe swelling of lymphatics was treated locally with blue ointment. In stenosis of the larynx hot packing or mustard baths were given a trial. When the heart showed signs of weakness, wine and camphor, and in some cases digitalis wert used. Strychnine came into use in the later stages of the disease, if indicated.

For the sake of convenience cases were divided into four classes:

I—Mild cases. Membrane covering tonsils and fauces only.

II—Cases of medium severity. Membrane covering tonsils, fauces, and extending into the nose or larynx, with swelling of lymphatics.

III—Severe cases (sepsis).

IV—Tracheotomies.

	No. of Cases	Deaths	% of Mort'lity
Class I—Ton. and Fauces	44	..	....
Class II—Ton., F., Nose and Larynx......	37	..	....
Class III—Sepsis..........	25	16	64
Class IV—Tracheotomies..	44	13	29.5
Total............. ...	150	29	19.3

For the sake of comparison, the authors cite the total number treated by them during the years of 1890, 1891, 1892, 1893, and 1894, with the same classification:

	No. of Cases	Deaths	% of Mort'lity
Class I—Ton. and Fauces	591	..	....
Class II—Ton., F., Nose and Larynx............	115	35	30.4
Class III—Sepsis	53	51	96.2
Class VI—Tracheotomies..	300	185	61.6
Total................	1059	271	25.5

Between Aug. 30 and Dec. 31, 1894, out of sixty-nine cases treated without serum there were twenty-three deaths, or 33.3 per cent. (mortality). Forty cases treated with serum, there were four deaths, or a mortality of 10 per cent. The author's conclusions are:

1. Injurious effects of a severer nature were not found in any case.

2. With few exceptions, the local process came to an end with the injection.

3. In no case, after an injection, was an advance into the larynx ever noticed.

4. The total mortality, taking similar cases, was materially less than it has been for years. Especially have the cases of Class II given results such as the general hospital of Hamburg-Eppendorf has not had since its existence.

5. The mortality of the tracheotomies has, during the period of serum treatment, reached its lowest ebb of 29.5 per cent.

6. In former years it was a rather com-

mon thing to have cases of Class I and Class II develop a diphtheritic laryngitis at any time within thirty days, so that tracheotomies had to be performed. Now all tracheotomies come within the first twenty-four-hour limit.

7. Temperature, sequelæ, and septic cases were in no way influenced by the serum treatment.

8. A marked rapidity in the exfoliation of the membrane could not be noticed.

Night-Sweats of Phthisis

While Fürbringer was using camphoric acid in cystitis, bronchitis, laryngitis, and other catarrhal conditons, he noticed that it checked the secretion of sweat, and then began to use it in cases of phthisical sweating. Further trials by Dreesman, Bohland, Niesel, Combemale, and others confirmed this observation, and all these investigators speak highly of its action, and place it in the very first rank as an antihydrotic. It has as yet only been used to a comparatively limited extent, and although it is stated to act more powerfully than either atropin or agaricin, the experience on which these opinions are founded is not very extensive.

Leu gave it fifty-five times, and states that it succeeded fully in checking the hyperhidrosis in 60 per cent., partially in 21.8 per cent., and failed in 18.2 per cent. of these; while Bohland found that it was successful in about 80 per cent. of his cases. He, however, seems to have treated only twenty-five cases altogether. Bohland found also that 15 grn. three times daily acted well in tubercular diarrhea.

Ralph Stockman (*Edinb. Med. Jour.*, January, 1897, p. 45) states that he began to use camphoric acid four years ago, and since then has given it pretty largely in phthisical and other cases of sweating.

He has also used it in cases of hyperhidrosis after influenza, and in other cases in which there was certainly no tubercle present, and in all of these doses of 15 to 30 grn. have given good or fairly satisfactory results. He wishes to emphasize its value in non-tubercular cases, because, as will be seen when its mode of action is discussed, it has been stated that its usefulness is confined in the sweating of phthisis.

In phthisical sweating its value is quite comparable to that of belladonna or atropin. Patients suffering from tuberculosis very commonly complain of night-sweats when they first apply for advice, but this is largely due to their having lived in warm, ill-ventilated rooms, and to their habit of using too many clothes, both by night and by day. When they come under more hygienic conditions, and sleep in cool, well-ventilated bedrooms, with light bedclothes, the night-sweats very frequently disappear without any special treatment.

The writer's experience has been that camphoric acid acts as efficiently as atropin, but in one or two obstinate cases has certainly not shown itself so powerful an antihydrotic as picrotoxin.

The best plan is to give 30 grn. at night two or three hours before the sweating is expected, or it may be given in two doses at short intervals. Sometimes 15 grn. thrice daily is given, but although this checks the sweating, it is not so efficient as one larger dose given at the proper time. It is best administered in powder, capsules, or cachets, as the alcoholic solution is very bitter. Owing to its insolubility, it is only slowly absorbed from the intestinal canal, and this is why it must be given so long previous to the usual time of sweating. This slowness of action is undoubtedly a drawback as compared with atropin or picrotoxin, which can be given hypodermically, and act rapidly. It is excreted in the urine within about twelve hours after administration by the mouth, and hence its action is usually not very prolonged.

The only unpleasant effect seen has been a slight irritation of the stomach after its use, but it is said to cause renal irritation, and in one case it was apparently the cause of a skin-eruption. It seems to be non-poisonous, even in large doses, and in this respect has distinctly an advantage over belladonna, picrotoxin, and agaricin, all of which are active poisons, and sometimes produce unpleasant effects. Fürbringer has given as much as 75 grn. per day in enteric fever, and Niesel 750 grn. in four weeks in a case of cystitis, without any toxic or unpleasant symptoms being produced. The writer's experience also bears this out, no depression of the heart or nervous system having ever been noticed by him. In fact, Wagener, experimenting on rabbits, found that camphoric acid has much the same effect as camphor on the circulation, and that it acts like a stimulant to the heart and raises the blood-pressure. F.

Senile Heart

Balfour (*Hosp. Times and Med. Gaz.*) gives four excellent rules as regards diet in cases of senile heart: 1. There must never be less than five hours between meals. 2. No solid food is ever to be taken between meals. 3. All those with weak hearts should have their principal meal in the middle of the day. 4. All those with weak hearts should have their meals as dry as possible. M.

PEDIATRICS

Edward N Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Gangrene of Thorax After Measles

Dr. Wunder (*Münch. med. Woch.*, No. 20, 1897) describes a case where ten days after the commencement of the measles there developed gangrene of the lateral thoracic wall. The line of demarcation formed soon, the gangrenous tissue was removed and the wound healed with extensive formation of scar-tissue. Etiologically, it was found that the child was lying on that side most of the time, before it became affected. The author considers the gangrene in this case analogous to the noma sometimes following measles.

Hysteria in Children

Jolly (*Archiv. für Kinderheilkunde*, 1896, XIX), (abstract, *Pediatrics*, Feb. 1, 1897) remarks that all the local manifestations of hysteria, the seizures as well as the real disturbances of the mind, are observed in children as well as in adults. We often see local disturbances and intractable pains confined to one region of the body (e. g., so-called neuroses of the joints) with which spastic conditions, such as paralysis and tremor, are frequently combined. Particularly are hysterical contractures and palsies observed in convalescence from acute and chronic diseases, when after a long period spent in bed the patient is urged to move about. Sometimes marked stuttering or mutism, either of short or long duration, is observed. In hysterical seizures highly increased emotional expressions are indulged in, spasms of screaming alternate with spasms of crying or laughing, and jactitation of the extremities occur. L.

Effects of Cigarette-Smoking Upon Children and Youths

Selma Severson, M. D. (*Pediatrics*, Feb. 15, 1897), queries: "What is there about tobacco-smoke so injurious to the young?" After referring to the composition of tobacco-smoke the suggestion is offered that the products of such are more readily taken into the lungs when smoking cigars and cigarettes than when a pipe is used, as the stem of a pipe, if porous and clean, absorbs the nicotine. According to Richardson, the use of tobacco causes the blood to become thinner, and in extreme cases, paler; the oxygen-carrying power of the blood is also lessened. Upon the heart, there is a functional derangement producing irregularity of action, due to the poisonous effect of the nicotine upon the nerves controlling its action; thus we have palpitation, dyspnea, and cardialgia. Upon the nervous system, nicotine has a decided effect, the pupils often becoming dilated with consequent obscurity of vision, specks before the eyes and sometimes deep-seated pain. Upon the exhausted brain it has a soothing effect, while upon the fully nourished brain it acts as an irritant. Through the sympathetic nervous system the secretions are disturbed, also the regulation of involuntary muscular contraction, as shown by spasm of the stomach and the vomiting produced on the first attempt at smoking. There is also an oversecretion of the salivary glands, with frequent, irregular secretion of the gastric juice, the result being a loss of appetite, if not dyspepsia. These disturbances being functional, the tissues quickly regain their normal condition when tobacco is discontinued. It also acts as a mechanical irritant to the mucous membrane of the bronchial tubes, and if a bronchitis be present it maintains an irritable state of the membrane and keeps up the cough. Thus by lessening the bodily vigor the person is unable to withstand disease, and if he inherit weak lungs, may easily become a prey to tuberculosis. From the foregoing, the author suggests that upon the young, tobacco has a decidedly injurious effect, so much energy being wasted through all the years when so much is needed for growth and repair, the whole organism being in a state of disorder. L.

On Tetany in Children

In a paper on this subject, Dr. Hauser, *Berl. klin. Woch.* (Vol. XXX, p. 782, 1896), concludes that:

1. There is a true tetany of childhood which follows the exact symptomology of the tetany of adults, and presents as the most marked symptom the characteristic contractures of the extremities; in addition there is always found one or the other, and frequently all the symptoms of the so-called trias. Aside from the tetanic spasm, the laryngeal and eclamptic spasms play an important, even a prognostic rôle. The etiology of infantile tetany is as yet obscure. As a rule, tetany rarely attacks perfectly healthy children. Rickets seems to be an important predisposing cause. The direct existing cause seems often to be gastroenteric disturbances. This is shown by the frequent occurrence of tetany with acute dyspepsia. The tetany of childhood is a dangerous malady, frequently causing death.

[In connection with the latter assertion the following incident might prove of interest to the reader: About three months ago a regular physician of New York reported the death of a child from tetany. The death-certificate was immediately returned by the Board of Health with the authoritative remark that they were not aware of such a disease. The certain physician was obliged to call upon these authorities with a text-book on nervous diseases in order to convince them of the existence and seriousness of this affection!—Ed.]

Its therapy can in the present state of our knowledge, be a symptomatic one only. Those due to digestive disturbance should be treated by a rapid emptying of the digestive tract by lavage of the stomach and bowels, the administration of purgatives for the removal of the toxins and to avoid their new formation the restriction of the diet to amylaceous food. In all other cases the treatment can only be a dietetic one. Administration of narcotics (bromides, chloral, etc.) for the spasms.

2. Besides this form of tetany characterized by typical contractures of the extremities, there is a so-called latent form, occurring in infancy. Its diagnosis is based upon an increased galvanic irritability of the nerves, which does not occur in this manner in any other disease; the same may be said of Trousseau's phenomenon, if present. A well-developed Chvostek's sign may support the diagnosis, but is not convincing in the absence of one of the other symptoms.

3. These cases of latent tetany frequently present as a prominent symptom severe spasm of the glottis. All cases of spasm of the glottis, particularly those of a severe type, should stimulate us to look for tetanic symptoms, especially for Erb's and Trousseau's signs.

4. The greater number of all cases of spasm of the glottis have no connection etiologically with tetany; moreover, some relation must exist between spasm of the glottis and rickets which probably indicate more than a mere coincidence. O.

The Infantile Diarrheas and Their Treatment

Dr. Darnall (*New York Med. Jour.*, LXVI, No. 3) classifies the infantile diarrheas into four types, according to the gross appearance of the stools. These are (1) the mucous, (2) the serous, (3) the pasty white or musty, from its odor, and (4) the dyspeptic, this last being subdivided into (a) acid and (b) alkaline.

1. The mucous stool is usually small in amount, frequent, and characterized by whitish, ropy mucus, of a gelatinous consistence. It may be faintly streaked with blood. Treatment: Clean the intestinal tract with full dose of castor-oil, then large doses of bismuth suspended in mucilage of acacia. If a dysenteric state is present, calomel and ipecac are of value. Dilute silver-nitrate enemata are very useful. It is also among the best remedies when ulceration is present.

2. The serous stool is a copious watery discharge which hardly stains the napkin. This is the choleriform diarrhea or cholera infantum. Associated with such stools may be severe vomiting, and usually a profound state of collapse. The severe shock under which the little patient labors is ascribed on the one hand to heat-exhaustion, on the other to a severe toxemia from infected food. The vaso-motor system is profoundly depressed, and the abundant flow appears to be caused by the relaxation of the intestinal vessels, supplied by the splanchnic nerves. Treatment: Temporizing here means death to the child. The depressed state of the nervous sytem must be restored to its normal tone. Abdominal counter-irritation should be employed; morphine and atropine, hypodermically, in minute doses; champagne and brandy; lavage of the stomach to check vomiting; rectal injections of starch-water and laudanum and enemata of saline solutions.

3. The pasty white or musty stool has the appearance of a paste made of water and chalk; it is hardly visible on the napkin; its odor is musty or mousy. This stool indicates a complete atony of the glands of digestion. Treatment must be prompt and directed to restoring the glands to their normal function. One of the best agents for this purpose is the bile itself and podophyllin in 1-20 grn. doses is very effective. Do not give astringents as long as the pasty stool continues. In the three above-described varieties food should be withheld for a day or two, and thirst may be allayed by barley-water.

4. In the dyspeptic diarrhea the stools are of two varieties: The first of these is characterized by a discharge leaden in color, acid in reaction, and by the sour, disagreeable odor of fermentation. The second is characterized by a grass-green stool, alkaline in reaction, and of a most foul and offensive odor. Intermixed in the discharges of both the acid-leaden and the alkaline-green stools may be seen curds of undigested food. The first is typical of the bacteria of fermentation; the second of the bacteria of decomposition, and the alimentary canal affords a splendid test-tube for the cultivation of these organisms.

In this class the whole management seems to be a question of artificial feeding, and for this purpose the author recommends modified milk. Each case is to be studied by itself, and the proportions of casein, sugar, fat, etc., are to be adjusted to the requirements of each individual patient. M.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

On Certain Symptoms of Spinal-Cord Affection in Bicycle-Riders

Drs. E. Semple and James Taylor, in the *Lancet*, April 17, 1897, cite three cases in which symptoms referable to spinal-cord disease ensued as a result of bicycle-riding.

Case I—the patient, a young man, had a chancre, no sore throat nor skin-eruption, and was otherwise in good health. He rode a bicycle daily, and after getting home would lie in a draught to cool himself. After some months he complained of numbness of the penis and perineum, absence of sensation during sexual intercourse, although there was an emission. He continued to use the bicycle, but he then began to have difficulty with his legs, first the right and later the left leg, and he could not feel the pedals of his machine as he rode. He then had incontinence of urine and loss of sensation of rectum. He had adductor spasms in his legs, so that they sometimes became crossed and remained so until forcibly replaced. He became unable to walk, unless supported on either side. There was no wasting of the muscles nor change in electrical reaction. Knee-jerks were exaggerated and ankle-clonus was present on both sides. Sensation above the knees was diminished, and the sense of position as regards left foot was lost. His condition gradually improved, so that he became able to walk without support, although not without some unsteadiness. His gait became markedly spastic, and knee-jerks were still exaggerated and ankle-clonus was present. There was no impairment of sensibility, and he had regained to some extent control of the bladder, although he had no sensation in urethra when he passed urine; he had neither erections or emissions.

This, then, was the case of a man, otherwise healthy, in whom impaired sensibility in the penis and perineum and loss of sexual sensation succeeded hard bicycle-riding, and to the symptoms were superadded others which pointed unmistakably to an affection probably a slight diffuse myelitis of the lateral and posterior columns of the spinal cord.

Case II—Patient, aged 32 years, healthy, complained after long years of riding, of sensation of coldness, numbness and tingling in penis. After a long ride he had no sensation of micturition.

Case III—A man that spent holiday on a bicycling tour. He experienced numbness, cold and pins-and-needles sensation in penis, and perineum after riding, also constipation.

There can be little doubt that the attitude in which the rider leans forward over the handle-bars is one in which pressure will be exerted on parts which ought to be free from it. It is also obvious that a saddle or handle-bar which in any way conduces to such a posture is a source of danger.

Encephalitic and Late Epilepsy

Dr. J. G. Kiernan (*Alienist and Neurologist*, April, 1897) considers that after the age of 25, and most frequently between 35 and 40, in persons with no very decided neurotic heredity, and in most of whom lues can be excluded, occurs an epilepsy which resembles in many respects the epilepsy from encephalitis. As a rule, in these cases, which the writer has found equally divided as to sex, there has been a precedent period of nervous exhaustion, attended by vertiginous states as its later development.

These vertiginous states are often preceded or followed by anomalous sensory disturbances, frequently compared by the patient to "waves." They pass into states attended by loss of or dazed consciousness, with or without motor explosions. Some of these vertiginous states, even when with consciousness, are attended by localized jerkings of groups of muscles.

All these phenomena are clearly due to toxins resultant on nerve-exhaustions, which produce the effect that Meynert long ago showed was due to them in ordinary epilepsy. Under normal circumstances the toxins and ptomains which are produced in the organism are eliminated by various channels. Some of these products are transformed in the alimentary canal into innocuous substances; gases are eliminated by the lungs; other compounds are intercepted and decomposed in the liver; lastly, certain effete products are eliminated by the kidneys and skin.

When any of these emunctories is interfered with in the discharge of its functions, the phenomena of auto-intoxication make their appearance. This is observed in certain affections of the alimentary system, for example, which are attended by such symptoms as headache, pallor, hypochondriasis, etc. These manifestations, which are the result of a chronic auto-intoxication, were not improperly attributed by the older writers to disturbance of the hepatic functions. As Schopfer* has lately shown, the liver, by its peculiar intrinsic action, due to the specific activity of its cellules, can diminish the toxic power of the alkaloids with which it is brought into contact. Such action is manifested not only in the case of poisons introduced through various channels into the organism, but also in the case of poisons elaborated internally within the organism itself, in consequence of putrefactions of the products due to the activity of the tissues. He hence advises intestinal disinfections and special alimentation, so as to obviate or to minimize "auto-intoxication in all maladies in which the liver does not perform its functions normally." Hence one great therapeutic element in preventing the recurrence which constitutes the "epileptic habit" is diet. As a rule, the epileptic should be limited chiefly to a farinaceous diet. This should be varied in itself and by slight amounts of the more digestible meats, beef or mutton. Berries or small-seed fruit, pine-apples, bananas, parsnips, and turnips should not be eaten, and the amount of potatoes should be limited. Large quantities of water should be drunk. In this way the necessity for artificial intestinal antiseptics will be greatly limited.

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* AMERICAN MEDICO-SURGICAL BULLETIN, 1894.

As Dr. J. M. Soniat, of New Orleans, remarks: "Recent biochemical researches, by revealing the action of toxins, ptomains, and leucomains, have thrown much light on the action of a class of remedies which the older therapeutists called alteratives, which Headland, however, denominates catalytics. This class of remedies, as Headland points out, has the following action. They act on the blood, and their effect is permanent. Each of itself tends to work out a peculiar operation in the blood. The diseases in which they are used depend on certain morbid materials or actions in the blood. The result of the action of a catalytic medicine is in some way to neutralize or counteract some one or more of these morbid processes. These medicines are all unnatural to the blood, and must at length pass out of the system. These properties indicate their use in incipient sclerotic states. The recent developments of biochemistry and bacteriology demonstrate that organic compounds produced by bacteria and by metabolism are the origin of secondary pathological tissue-change. Scleroses of all types may result from such action. Behind many forms of cirrhosis, renal, heptic, or gastric, is the ptomain of syphilis.

The foremost metallic alteratives are arsenic, gold, and mercury. Gold is an old remedy, but early in the seventies came into prominence because of its affinity for nerve-tissue when used as a stain in preparation of microscopical sections. These remedies were found to act best in combination with chlorine, iodine, and bromine, while all of these last had an alterative action. Chlorine and iodine were long the chief favorites. Bromine, widely used in neuroses, attracted less attention as an alterative, although when first discovered it was chiefly so used.

The alteratives are hence peculiarly suited for treatment of states due to toxin, even antecedent to sclerosis. By destruction of the toxin through stimulus of hepatic action and elimination they tend to prevent its accumulation and the phenomena resultant on this. The alkaline bromides do not seem to exert this influence, hence in no small degree their untoward effects. Of late metallic bromides have been (it is claimed) united in two compounds the liquor arsen. auri, Barclay (arsenauro), and liquor arsen. auri et. hydrarg., Barclay (mercauro). These two compounds, alternated weekly, give in the types of epilepsy to which allusion has been made undeniably excellent results. Twenty drops in four doses daily are given, gradually increased by two drops daily until slight sialorrhea, or looseness of the bowels, occurs, when the dose is reduced by two drops. None of the untoward effects of the bromides have been observed. Cases stupefied by them have reacted excellently. Like all beneficial effects of alteratives, improvement is at first slight, but increases in geometrical progression.

Of course, certain symptoms require special treatment, and an excellent adjuvant to dietetics and the alterative treatment is nitro-glycerin, which a little less than two decades ago, acting on basis of the morbid phenomena described, was introduced on therapeutical grounds without reference to bromide untoward effects. It was found by neurologists that it had neither the tendency to produce mental symptoms by suppression of the epileptic discharge nor yet the distressing dermic phenomena. Spitzka found it of especial value given at shorter intervals than the bromides in 1-50 grn. doses. Trussewitch points out that it should be used when there is a defect in the equilibrium of the vascular tone and the blood is irregularly distributed. It causes a rush of blood to the anemic district or unloads the hyperemic. He finds, as did Spitzka, that after a time there comes a toleration of the drug. It should then be dropped for one or two weeks, when susceptibility will be regained. Osler finds that the physiological effects must be apparent before good results are obtainable. It controls, given on the principles indicated, the restlessness, the temper, as well as the motor phenomena of these epileptics. It is best given eight times daily in 1-250 grn. doses. B.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D.,
DAVID M. STÄBLER, M.D.

Surgical Treatment of Perforating Typhoid Ulcer

J. M. T. Finney, associate in surgery at the Johns Hopkins University (*Ann. of Surg.*, Vol. XXV, No. 3, p. 233), reports three personal cases of perforating typhoid ulcer, treated by laparotomy, with one recovery. In addition his paper contains a very excellent review of the literature of the subject up to date, and a table comprising all of the reported cases; he has collected forty-six cases reported in literature, and has added to this number six unpublished cases, including his own, making a total of fifty-two cases. He states that according to the best authorities intestinal perforation occurs in from 1 to 2 per cent. of all typhoid-fever cases, but produces between 6 and 7 per cent. of the deaths in fatal cases. It occurs in the ileum, usually within the last two feet, in 80 per cent. of all cases: in the vermiform appendix in about 5 per cent. of all cases. It is generally single, but may be multiple. Dr. Finney's table shows that it is rarely met in children, and occurs most frequently between the ages of 20 and 30 years, and during the third week of the disease, and it usually proves fatal within a very short time. According to Finney, 37 per cent. die on the first day, 29 per cent. on the second, and 83 per cent. of all cases during the first week.

Bohl's classical case in 1857 showed the possibility of recovery after intestinal perforation. A study of Dr. Finney's tables shows that of 35 cases in which it was possible to estimate accurately the time, perforation occurred in 20 cases in the third, in 4 in the second, and in 3 in the fourth week. Out of 26 cases in which the character of the fever is mentioned, 10 were very mild (of the ambulatory kind), 12 of moderate severity, and only 4 very severe. The characteristic symptoms of perforation, sudden attacks of abdominal pain, were present in 32 cases. The length of time between the onset of the symptoms and the operation is mentioned in 35 cases, and varies between two hours and twelve days. In 22 cases the operation was performed within twenty-four hours, and 9 within twelve hours. In most cases the condition of the patient was extremely bad at the time of the operation, and only in 5 was it described as fair or favorable. Thirty-three of the cases reported had marked general septic peritonitis, with the presence of foul pus and exudate in considerable quantity. In 30 of these cases fecal matter was present. In 8 cases a wrong diagnosis had been made. Of the 52 cases in Finney's table, 17 recovered, or 32 16-100 per cent.; excluding, however, the doubtful cases, there are 45 cases, with 11 recoveries, or a percentage of 26 22-100 per cent. Drainage was employed in 28 cases, and 7 were tightly closed after cleansing the peritoneal cavity.

Finney's conclusions are that the earlier the operation is performed after the patient has recovered somewhat from the shock, the more favorable the diagnosis. Drainage should always be employed, and is best accomplished by means of wicks of bismuth or iodoform gauze carried into the different parts of the cavity. As to the question of irrigating or not irrigating the peritoneal cavity, the table furnishes little light. Eight of 10 cases in which general peritonitis had existed recovered after irrigation. In only 4 cases was wiping of the peritoneal cavity practiced, with two recoveries.

Finney believes that if the inflammatory process has gone beyond circumscribed bounds, and yet has not infected the entire peritoneal surface—the condition present in his own case of recovery—an element of danger is added by introducing an irrigating fluid which may disseminate the inflammation. If irrigation is used, he believes normal salt solution to be by far the best. D.

Aseptic Incision with a Simple Fracture

Dr. J. C. Warren (*Boston Med. and Surg. Jour.*, April 15, 1897) reports a case of a patient who was caught between the couplings of a freight-car and an engine, Jan. 23, 1897. The patient was brought to the hospital, and the next morning the whole leg, from the toes to the knee, was intensely swollen, black-and-blue, the skin shiny, glistening, and pale. Pain was extreme. In consultation with Drs. Richardson and Porter, it was decided to lay the integument freely open, even though there was present a Pott's fracture, for it had become a question of saving the leg. The patient was etherized and an incision made from the upper malleolus nearly to the head of the tibia, down through the skin and deep fascia. A similar incision was made over the outer malleolus. The muscle bulging up was of a deep claret-color, so that it was almost a question whether it was muscle or blood-clot. Through the inner incision the broken malleolus could be felt, showing it to be a Pott's fracture, with laceration of the joint. The incision was aseptic; it was dressed with a dry dressing, and the moment the patient came out of ether his pain had gone. Forty-eight hours afterward a culture was taken from the wound, and the wound was found sterile. Finding this result, the greater part of the wound was stitched up again. The case was reported to show how a simple fracture was changed to a compound for the purpose of saving the limb, and the compound fracture back again into a simple one, or nearly so, after the danger had passed. P.

Anemia in Tuberculous Joint-Diseases and Osteomalacia—Fourteen Cases Treated with Bone-Marrow and Bullock's Blood

The above is the title of a paper (*N. Y. Med. Jour.*, July 31, 1897) by Dr. Charles H. Jaeger, which is based upon the study of fourteen cases which are cited and briefly summarized. The writer tells us that in the treatment of tuberculous joint-diseases, after meeting the local indications with suitable apparatus, etc., we strive especially to improve the general health and put the patient in the best possible condition to withstand the long siege of sickness.

During the past spring the author has used a preparation of red bone-marrow and bullock's blood, called carnogen, which was given in two-drachm doses twice daily. The improvement was marked and soon noted. the children rapidly gaining in color and strength, and some considerably in weight.

Each case cited is accompanied by a table showing the increase in corpuscles, hemoglobin and weight, of which the following is an example:

Date.	Weight.	Hemocytes	Leucocytes.	Hemoglobin.
April 6	Not Taken	4,770,000	9,000	70%
April 22	40½ lbs.	4,810,000	11,250	70%
May 4	41½ lbs.	5,000,000	9,250	70%
May 21	41½ lbs.	5,100,000	8,250	76%
June 9	42½ lbs.	4,850,000	9,000	76%

B.

Gonorrheal Synovitis in Infancy

Dr. Moncorvo, chief of the polyclinic in Rio de Janeiro, gives a full account of a new case of this condition in the *Jour. de Cliniq. et de Thérap. infant.* (No. 1, pp. 1-7, 1897).

He recalls Demelin's and Létienne's demonstrations in Larnier's laboratory that the nasal, buccal, urethral, and valvo-vaginal mucous membranes may be infected by gonococci in the parturient canal even days before birth after rupture of the fetal membranes. The author's examination of 47 cases of vulvo-vaginitis showed Neisser's gonococcus in 39, though most of these were over 2 years of age. Though synovial membranes were oftenest affected in this disease, yet the other serous membranes were sometimes the seat of inflammations, also the endometrium and endocardium. Amaral and Beclère had stated in Paris, in 1891 and 1892, that children were exempt from gonorrheal rheumatism, but Phalpat in England had published cases in 1885, and Richard Pott others in 1886. The author's pamphlet in 1894 gives two cases, and the present is a third case which came to him in March, 1896.

The father was syphilitic, the mother feeble with an old vulvo-vaginal discharge. The girl is 11 years old, the third of five children. She had measles at 16 months, chicken-pox at 12 months, whooping-cough at 4 years. Her teeth were defective, she had enlarged peripheral glands and rachitic deformities in the bones. When first seen, she had had an abundant vulvo-vaginal discharge for about seven days with difficult spasmodic micturition of a few drops of urine at very frequent intervals. The thighs and external genitals were erythematous and the urethral mucus was inflamed especially at the meatus. She had wandering pains in her limbs. Neisser's gonococci were found in the vulvo-vaginal pus. Lotions and irrigations with a 1-per-cent. solution of asaprol were ordered by Dr. Moncorvo, who has described this drug. Three days later all acute symptoms were lessened except pain in the right wrist, where the back of the hand and wrist were swollen, the skin hot, red, stretched and shiny. There was effusion along the sheaths of the extensor tendons of the fingers of that hand. All movements of the fingers were painful. No other joints were involved. The temperature was 37.8°, C. (100°, F.). Seven and a half grains of analgen were then given and a coating of asaprol was applied to the wrist before it was done up in immobile dressing. Three days later the child could move the fingers and the day following the wrist. On the sixth day iodide of potassium was begun and continued for two weeks. The case thence progressed uninterruptedly to recovery.

The synovitis is not dependent on the intensity of the blenorrhagic inflammation; in fact, a polyarthritis may ensue from a slight gonorrheal conjunctivitis. In the young synovitis is oftenest polyarthritic, attacking preferably the extra-articular sero-fibrous tissues, selecting the smallest joints of the hands and feet, the wrist, ankle, and knees: it is exceptional to find it monarticular. The febrile reaction is not great, and the attack runs a variable course from a few days to a few weeks, and is unaccompanied by ankylosis or other serious consequences. Being confined to the joints first invaded, being extra-articular, and having always a gonorrheal infection, it is distinguished from ordinary inflammatory rheumatism.

The most difficult question concerning it is whether the affection of these tissues is due to the penetration of the gonococcus to them through the blood-current, since the micro-organism has certainly been found in the parts affected. But as Petrone has shown, the aërobicity of the germ would render its vitality in the blood of short duration. H.

A Case of Fractured Patella—Wiring the Fragments

Dr. C. B. Porter (*Boston Med. and Surg. Jour.*, April 15, 1897) considers it still a question as to the desirability of wiring fractured patellæ. In the case cited there was a fracture that had existed eight months, and a separation of the two fragments amounting to three and a half and four inches, and he was absolutely incapacitated. The fragments had been separated from the first, showing no tendency to fibrous union, and no attachments at all except by the skin. Having cut down and refreshed the edges, the author put in very strong silver wire, and with the assistance of Dr. Newell endeavored to bring the fragments together. He finally divided the rectus, part of the vastus internus, and certain of the deeper bands. The fragments were finally got together and a perfect union ensued. P.

Abscesses of Both Kidneys Due to Chronic Cystitis—Abscesses Opened and Drainage Kept—Steady Improvement

Dr. Jacob Michaux, in *Gaillard's Med. Jour.*, Vol. LXVII, No. 1, reports a case of chronic cystitis of five or six years' standing resulting in an abscess of the kidney.

Miss C. F., white, age 22, was brought to him in January, 1897, suffering with chronic cystitis, which she stated she had for five or six years. He advised operative treatment, to which she would not submit. Medical treatment and rest were advised.

On February 18, 1897, she consented to an operation; thereupon he dilated the urethra under ether and cauterized the internal surface of the bladder. Daily washing of the bladder with a teaspoonful of boric acid to a pint of tepid water. The urine drained away well, and the temperature and general condition improved fairly well for about three weeks.

About March 15 the temperature began to climb until March 24, when it reached 104° F., with pain from the left side radiating outward and upward through the left inguinal region and over the crest of the ilium to the region of the kidney. There were no vesical symptoms, yet there was pus in large quantities in urine; hence it was thought to come from the kidney.

Dr. Moses D. Hoge, after a careful analysis of the urine, reported renal cells among the debris.

On March 25, the following day, the author operated. After exposing the posterior surface of the kidney, he saw the entire organ was enlarged and inflamed. The pelvis of the kidney was not distended or inflamed as he expected. A yellowish spot near the cervix border, not far from the middle of the organ, attracted the attention of Dr. J. W. Henson, who assisted at the operation. On palpation, this was found to be the thin wall of a large abscess wholly within the organ. This was incised, an abscess-cavity found extending the whole width of kidney and almost dividing it into two parts, the capsule being about the only tissue that held the separate portions together. A drainage-tube was put in the abscess-cavity, to try and save as much healthy tissue as possible. The wound was treated by the open method. The temperature at once fell to normal, general condition improved, and a strong reason to hope for recovery.

On May 14, 1897, the author operated on the right kidney to relieve the choked ureter. Considerable urine, in clots, and little pus escaped. Continuous drainage and washing out will be kept up, with the hope that healing may ultimately result, and then the three fistulæ may be closed. She is free from pain now for the first time in many months, and slowly gaining in strength. V.

Concerning Fecal Tumors

Professor Hoffmolkly, of Vienna (*Wien med. Woch.*, ref. *Inter. Med. Mag.*), criticizes Gersung's article in which he describes the *Klebe-symptom.* As he has never been able to elicit it, he concludes that it only occurs in special instances, especially where hypertrophy of the wall of the bowel gives rise to certain degrees of rigidity. A more important symptom is, perhaps, the indentibility of the tumor, a condition that can be elicited satisfactorily only in anesthesia, on account of the extreme tenderness of the abdominal wall. This symptom, however, can be easily made out in pregnant women with fecal impaction through the posterior vaginall wall. Hoffmolkly reports two cases in which the diagnosis was only made after laparotomy had been performed, in both of which recovery ensued after treatment by massage and enemata. B.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N Hoople, M.D.,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Traumatic Enophthalmus

C. Zimmerman (*Arch. of Ophth.*, January, 1897) says enophthalmus or sinking of the eyeball back into the orbit is a rare affection, but thirty-one cases having been reported. The writer has observed two cases. In case I the enophthalmus was caused by a fall on the right eye, by which the visor of the patient's cap was detached and injured the lids and eyeball, and caused paralysis of the superior rectus muscle. Case II came under the author's care July 19, 1892. The right eye of a carpenter, while looking up on a new building, in which he worked, was struck by mortar falling about ninety feet. The author examined the patient soon after and found a cast of mortar filling the conjunctival sac. The whole cornea was opaque and the conjunctiva discolored. Sloughing of the cornea and symblepharon necessitated enucleation in four weeks. In this case the enophthalmus was caused by the violent contusion of the eyeball and the contents of the orbit.

The cause of enophthalmus of most of the cases that have been reported was atrophy of the retro-bulbar tissue; in two, from a trophic neurotic disturbance. The case reported by De Schweinitz, its author believes to be due to lesion of the sympathetic. Denig related a case in which he thinks that the fifth nerve itself (not its sympathetic fibers) caused atrophy of one side of the face and enophthalmus.

If in the permanent cases of enophthalmus a paralysis of the trophic fibers is surmised, Schapringer is disposed to assume, also, a paralysis of Mueller's muscles, since the nervous fibers are closely connected at the point where the lesion is supposed to be. The theory attributing the cause of enophthalmus to paralysis of the sympathetic nerve has something enticing, especially if we consider the late experiments of Heese *Arch. für die gesammte Physiologie*, Vol. LII, p. 5256). The writer sums up these experiments as follows: The different conditions of vascular tonus and the corresponding varying amount of blood in the orbit must influence the position of the ball. There are two forces governing the position of the ball; one is the state of the vessels with the consequent varying amount of blood in the orbit, and the other is the condition of the musculus orbitalis.

In order to learn how far the sympathetic nerve is involved he put into the enophthalmic eye of his first patient cocaine, which stimulates the endings of the sympathetic nerve in the oculo-palpebral muscles. A protrusion of the eyeball, only occasionally seen after the instillation of cocaine, could not be detected, but the ptosis subsided completely, the palpebral fissure widened as far as that of the other eye, and the pupil dilated, indicating that the cervical sympathetic nerve was intact. Had it been paralyzed, no reaction would have occurred on instillation of cocaine, as, e. g., Pfluger did not see any effect of cocaine on the upper lid or the pupil in four cases of ptosis and myosis due to affection of the cervical sympathetic nerve (*Cbl. f. Ang.*, 1885, p. 206). It may be fairly concluded that the ptosis in this first case was only a mechanical consequence of enophthalmus. Although this experiment with cocaine does not prove the integrity of that branch of the sympathetic nerve which innervates the smooth muscular fibers of the musculus orbitalis of Mueller in the inferior orbital fissure (to the relaxation of which the recession of the eyeball is attributed), it makes it very probable, as there is no sufficient reason why this more remote branch of the sympathetic nerve should be paralyzed and the others not. Therefore the explanation of traumatic enophthalmus without fracture of the orbital walls, based on the assumption of paralysis of the sympathetic nerve, becomes rather uncertain. B.

Gonorrheal Ophthalmia—Report of a Case Treated with Argonin

The case is reported by Dr. Frank Trester Smith in the *Jour. Am. Med. Assoc.*, April 10, 1897.

C. D. R., male, aged 33. First seen Nov. 25, 1896. Two weeks before, right eye became sore, for which he was treated by his family physician. It was extremely painful until two days before, when something seemed to give way and water gushed from between the lids, after which it became easier.

There was an abundant purulent discharge. The cornea was not clear at any point but had a fleshy appearance and bulged from the general curvature of the eyeball (total staphyloma).

The man lived at some distance in the country and failed to attend regularly, coming only once or twice a week. For two weeks he was treated in the usual way with boric acid, bichloride and nitrate of silver with very little effect on the discharge, which was abundant from the time first seen. A microscopic examination by Dr. E. C. Anderson, chief of the Microscopic Laboratory of the Chattanooga Medical College, showed the presence of gonococci in abundance. The patient had gonorrhea.

Thinking this a favorable case to test argonin, as the eye was hopelessly lost, a 5-per-cent. solution was instilled into the eye. The application caused no pain and a solution was given to the patient for use at home. Four days later he reported that the discharge had almost entirely ceased after the first use of the argonin. He had kept samples of the discharge, which were preserved on cotton swabs made by wrapping pledgets of cotton on toothpicks. These were sealed in envelopes as soon as obtained. An examination of these failed to show a single gonococcus. A sample of the discharge taken direct from the inside of the lid was found to contain a few, very few gonococci.

The argonin was continued. A few days later the eye again became very painful. The tension was increased to plus 1 and the staphyloma was larger. The ball was incised and the clear lens escaped. There was no pus inside the eye. There was no further pain and the patient ceased his visits owing to sickness in his family. One of his neighbors reported that he had no further trouble. The fellow eye was unaffected during the whole of the treatment.

The case seems to indicate that argonin can be used safely in the eye; that it is less irritating than nitrate of silver, and from its wonderful effect on the discharge and development of the gonococci it appears to be the ideal remedy in purulent ophthalmia. B.

Obstruction of the Lachrymal Duct in New-Born Children

Landolt (*Ann. de Gyn. et d'Obstet.*, January, 1897; ref. *Brit. Med. Jour.*) finds that this condition is not rare, and is often overlooked till much harm is done. The affection should be suspected whenever there appears to be conjunctivitis in one eye only a day or two after birth. The conjunctiva itself is not infrequently cured, so to speak, by appropriate lotions. The obstetrician, mistaking a complication or result for a primary disease, finds to his surprise that the eye continues to water, the lids becoming glued together, and a drop of pus often exudes from the inner canthus. This condition is yet more alarming in certain cases where no conjunctivitis has been observed. It looks like the beginning of a purulent ophthalmia. Landolt lays down as a rule that obstinate unilateral lachrymation in a new-born child usually signifies obstruction of the tear-duct. As an ophthalmic surgeon, he advocates sounding of the duct with a fine probe; on no account should the canaliculus be slit up. Afterward weak antiseptic lotions must be injected into the duct by means of Anel's syringe; the infant must be turned on its face directly afterward lest any of the lotion be swallowed. B.

Phlebolith of a Varix of the Conjunctival Veins

Swan M. Burnett (*Arch. of Ophth.*, January, 1897) defines a phlebolith as a plug in the cavity of a varicose vein with a deposit of calcareous or other earthy material in it. He has not been able to find any reference to them, in any of the more recent text-books on ophthalmology, as occurring in the eye. In fact, varices of the veins on and around the eye are not themselves common. Dr. Burnett has seen only three or four in about twenty thousand recorded ophthalmological cases. In the cases observed by the author he was not able to refer them to any particular cause, and all the patients stated that they had been accidentally discovered long before presenting themselves for treatment.

In two cases it was affirmed that a gradual enlargement had been noted recently. Pressure from before backward always emptied them; and a ligature applied at the base has sufficed to cure the cases which submitted to treatment.

The third case, however, was distinguished by features that have led to a detailed report:

Mrs. S. E. S., a white married woman of 30, presented herself on December 18, 1895, with a large varix of the conjunctiva occupying the cul-de-sac and running upon the conjunctiva of the ball to within a few millimeters from the corneal edge. She had first observed it thirteen years ago. It had remained stationary until within the last few months, since which time it had seemed to enlarge somewhat. She had never had trouble of any kind with the eye. In this case, B. determined to attempt to dissect out the mass of veins with a view to examine its histological structure in detail. In this he was, however, only partially successful, for on examining it more carefully and attempting to evacuate it by pressure a hard resisting body was found which prevented a collapse of the tumor. However, the dissection was proceeded with, and two solid bodies were removed—one oblong, 8 by 6 by 4 mm., the other almost globular, 1 mm. in diameter. Both had perfectly smooth surfaces, and felt as hard as shot under the finger. On their removal the tumor collapsed completely. The conjunctival wound was brought together by a single fine suture. It healed readily, and in a few days there was no trace of it remaining. B.

DERMATOLOGY AND SYPHILOLOGY

James M. Winfield, M D., Homer E. Fraser, M.D.

To Cut Short an Eruption of Herpes

According to the *N. Y. Med. Jour.*, in the *Jour. des Praticiens* for June 26, M. Lelair is cited as being of the opinion that it is possible to arrest the evolution of herpes by applying to the affected surface, as soon as the initial redness shows itself, a pledget of absorbent cotton soaked in a 1-to-50 alcoholic solution of resorcin, a 1-per-cent. solution of thymol, a 3-per-cent. solution of menthol, a 1-to-400 solution of carbolic acid, a 1-to-50 solution of tannin, or the following:

Resorcin	3 parts.
Cocaine	1 or 2 parts.
Alcohol	100 parts.

The cotton should be covered with an impermeable tissue to prevent evaporation.

B.

Treatment of Leprosy

Dr. P. G. Unna (*St. Louis Med. and Surg. Jour.*, Vol. LXXII, No. 6) reports a case of leprosy with a detailed description of the treatment.

The patient, a man, 30 years old, a native of Brazil, with good family history, and no history of leprosy in his neighborhood, came under the author's treatment in November, 1895, presenting the following picture: The entire right cheek was covered by a smooth, yellowish-red to sorrel-brown tumor, one-half to one centimeter high. It extended upward by two isolated extensions to the eyelid; anteriorly, nearly up to ala; downward to the angle of jaw, where it was the thickest. The tumor-mass was moderately soft, not as soft as lupus-tissue, but softer than leprous tumors usually are; it permitted of being pressed together with some strength. Under the diascope the brown melts into many yellows, regular masses enclosed in white collagen and for the most part perifollicular, which do not show the bright, transparent brown of diascoped lupus-nodules, but also do not resolve themselves in the yellowish arterioles as in diascoped syphilides. In February, 1895, brownish nodules first appeared between the right ear and eye, new ones appearing steadily, by which the disease spread to the angle of jaw, melted into one tumor-mass. Marked subjective symptoms, especially pain, were never observed; there was no change in tactile sense over the tumor.

Microscopical examination of an excised piece established the diagnosis of leprosy.

The nodular masses were shaved off and wounded places cauterized with pure carbolic acid and pyrogallol plaster was applied. He afterward applied ichthyol gelanth and ichthyol plaster-mull. Internally were given chaulmoogra-oil and ichthyol. The suppurating, black staining of the cheek following the use of pyrogallol, healed under the use of ichthyol, aided by the use of nucro-brenner, in a progressive manner. An oft-repeated desquamation by means of resorcin paste completed the cure.

The patient enjoyed good health until June, when there appeared nodules and tubercles scattered over the entire skin, with fever and a complete universal eruption of a neuro-leprous nature.

Again placed under treatment, he was given subcutaneous injections of chaulmoogra-oil; a half-syringeful, at different places, or in neighborhood of fresh nodules, a mixture of

Chaulmoogra-Oil	40
Olive-Oil	100

and later until a strength of 40 of the first and 60 of the second had been attained. The entire body was anointed twice daily with pyrogallol-salicylic-acid ointment of increasing strength. The substitution of oxidized pyrogallol for ordinary pyrogallol made a marked advance in the treatment.

The strongest ointment given in this case was 50 gme. pyrogallol and 60 of salicylic acid to 1 kilogramme of ointment, which was well borne for months.

Pyrogallol oxide was substituted for the painful and objectionable oil-injections. He began with keratinized pills of 0.01, three to ten pills daily, and rose to 0.05 per pill, in the same number, or ½ gme. daily. Under this treatment appetite, weight and strength increased. He soon abandoned pills and gave high doses. Later to the patient was given an essence of lemon, which contained 50 gme. of oxide of pyrogallol dissolved in each liter in the quantity of four tablespoonfuls (50 gme.) daily, making about 2½ gme. of pyrogallol. In this case 250 gme. of pyrogallol oxide have been taken since October, and the author would not hesitate to recommend this simple as well as effective internal medication to a patient for years to come. He states that the exceeding and, to all appearances, complete temporary cure in this case is to be attributed to the internal and external use of oxidized pyrogallol; the injections of chaulmoogra-oil were so few in number, and given consecutively, that no part of any consequence in the disappearance of the symptoms can be attributed to them.

V.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

A Method of Untying the Knots of Silk Ligatures

Herman Grad (*Amer. Gyn. and Obstr. Jour.*, Feb., 1897) demonstrated before the New York Obstetrical Society a method of untying the knots of silk ligatures employed for tying the vessels and broad ligaments in vaginal hysterectomies, the free ends of the ligatures naturally being brought down into the vagina at the time of operation. Heretofore the removal of these ligatures has been accompanied by considerable pain, and has at times been accomplished with difficulty. The author's ligature consists of two parts; first, the ligature proper, with one end knotted for ready identification, and second, the so-called traction strings, the latter being a substitute for a tenaculum. A traction string is made of a piece of braided silk, preferably No. 13, about twenty inches long, the two ends of which are tied together. These strings are designated as 1, 2, and 3, by their corresponding number of knots. They are included into each knot of the ligature at the time it is tied, and when subsequently drawn upon untie the knots.

The application of the traction strings is as follows: When the operator is ready to tie off the pedicle, he slips over the knotted end of the ligature traction string No. 3, and ties a single or double knot, as he prefers. The surgeon then takes traction string No. 2, slips it over the knotted end of the ligature, and ties a second knot. For additional security a third knot is tied in the ligature, traction string No. 1 having previously been applied over the knotted end of the ligature. The knotted end of the ligature is now cut short, and the three traction strings with the remaining long end of the ligature are tied together with a piece of silk, all these being brought down into the vagina, serving also as a medium for drainage.

In the removal of these ligatures, the patient being placed in the lithotomy position, the bundles of traction strings and ligatures are pulled out of the vagina, each bundle being separated from that of its fellow, and the thread binding the bundle selected is cut, thus releasing all the factors of each bundle. Traction string No. 1 is now picked up, and a slow but steady traction is made on one half of it, until it is felt to move out of its position. The opposite half of traction string is now pulled on until the string returns to its former position. After making this forward and backward motion several times, the traction string suddenly comes away, and the first knot (i. e., the last one tied) is untied. The same maneuvres are repeated with strings Nos. 2 and 3. All the knots being now untied, the ligature itself can readily be removed. Each bundle of ligatures and their traction strings are treated in the same manner until all are removed. An antiseptic vaginal douche follows.

The Results of One Hundred and Forty-Seven Operations for Retroversion of the Uterus

Dr. A. Lapthorn Smith, in a paper read before the American Gynecological Society at Washington, May 6, 1897, and based upon ninety-four ventrofixations and fifty-three Alexander's operations, held ventrofixation was the only operation that should be entertained in cases of retroversion with adhesions; but it should not be done when the uterus was movable and when there was no disease of the appendages requiring abdominal section, in which case Alexander's operation had given excellent results. There should be no death-rate to either operation, neither should there ever be hernia, either ventral or inguinal, if the following directions were followed. The two operations were equally easy, although a few years ago the author was opposed to Alexander's operation on account of its difficulty. Now he could invariably find the ligaments, and generally in from half a minute to a minute and a half. He warned his hearers not to do Alexander's operation if there were any adhesions, even if they were loose enough to permit the uterus to be lifted up; because they would be put upon the stretch and would drag so much upon the ligaments as to finally pull them out of their anchorage. In laying down the technique of Alexander's operation he placed great stress upon the importance of putting aside all cutting instruments as soon as the skin, superficial and deep fascia had been cut through. Instead of laying open the inguinal canal as advocated by some writers, he advised his hearers not to cut a single fiber of the intercolumnar fascia which was the principal support of the pillars. Moreover, he said, the slightest nick of the fascia of the internal oblique would lead to a false passage and failure to find the ligament. If no cutting instruments were used, but only a Péans forceps to draw out the ligament, there would be no difficulty in finding it, because there was nothing else in the canal but the ligament. In fact, with the eyes bandaged it could be found and drawn out, simply by introducing the closed forceps and then opening them, when the round ligament will fall into them and can be drawn out. He advocated the use of fine silkworm-gut, which could be thoroughly sterilized and left in permanently. Occasionally he had been obliged to remove a buried stitch. In case any fibers of the intercolumnar or internal oblique should be accidentally cut, great care should be exercised in sewing them up to avoid hernia. He had only had one relapse after ventrofixation and one after Alexander's operation, which were both subsequently repaired. Several of the cases of ventrofixation had since become pregnant, and had had normal confinements. Several patients on whom Alexander's operation had been performed had also had children. Many of the patients had been bedridden invalids for years before and were now enjoying excellent health.

Use of Ergot in Obstetrics

Dr. Madden writes in the *Med. Times and Hosp. Gaz.* (No. 1005), that in his opinion the reaction against the former abuse of ergot has gone already too far, and that it is time to take up again this valuable agent. He uses it even before the second stage of labor, and also during and after that stage. During the first stage it may be employed in some instances, (a) of delay from inertia of the uterus before the full dilatation of a dilatable os, and in which there is evident danger to either mother or child from protraction of labor; Secondly, it may be administered during the second stage (b) in nearly every case of long delay from inertia wherein the presentation is natural and the delivery not otherwise impeded, or in which (c) there is then either reason to apprehend the probability of subsequent hemorrhage, or any such complication as may call for its use; Thirdly, during the last stage of labor this ecbolic may be employed (d) to hasten the expulsion of the placenta when delayed by inertia, or (e) for the arrest of hemorrhage; Fourthly, after labor ergot may be resorted to, either immediately (f) to prevent or check flooding, or subsequently (g) to produce such tonic or permanent contraction as will effectually seal up the uterine vessels, and so lessen the liability to subsequent septic invasion, or (h) to effect the expulsion of clots and to arrest afterpains; Fifthly, and lastly, (i), to stimulate such contraction as may quicken or secure the process of involution after parturition.

The author advises and uses very large doses: two to two and a half drachms of the fluid extract by the mouth, together with a drachm hypodermically in the gluteal region. He deprecates the use of small doses. M.

Imperforate Uterus

Dr. R. Peterson presented a specimen of imperforate uterus at the January meeting of the Chicago Gynecological Society (*Am. Gyn. and Obst. Jour.*, March). The uterus, tubes, and ovaries were taken from a woman 75 years of age, who had died from some obscure pulmonary trouble. A section of the uterus was made in order to open up the canal, when it was discovered an almost solid uterine body existed. The cervical canal was less than an inch in length, the right tube impervious to the probe, the left patent, a probe passing down to the uterus but striking the solid body. Microscopical examination showed the absence of glandular tissue of the body, but a similar examination of the closed tube showed the tubular elements present, the tube however being impervious. The explanation given of this rare condition of things was, that the central wall, formed by the coming together of the ducts of Müller in early fetal life, failed to be absorbed in the upper portion of the uterus, and a solid body resulted. The history obtained afterward from the members of the family was that this woman had a "show" at the usual time, when about 14 years of age, but only once or twice, nothing having been seen thereafter. L.

The Conservative Treatment of Fibroids

With the object in view of carrying the patient on to the menopause, when with the atrophy of the pelvic organs also atrophy of non-malignant tumors takes place, Dr. L. Remfry (*International Clinics*, Vol. IV, Series VI, p. 35, 1897) recommends the following measures:

1. Exercise.—This will develop the muscles, and the muscle-forming foods will go principally to them, and not to a tumor which may be taken to represent abnormal muscular formative energy.
2. Food.—White meat (sparingly), fish, starchy foods, vegetables, and fresh fruits. Red meat is bad.
3. Purgatives.—Magnesium sulphate and sodium sulphate are the best, for they deplete the pelvis by relieving the lower bowel thoroughly.
4. Rest.—Rest during menstruation.
5. Drugs.—In interstitial or submucous tumors the patient should be kept on ergot continuously, bromide of potassium being a useful addition sometimes. Ergot can be taken in all weathers, and keeps well if to the mixture be added five drops of hydro-

bromic acid and fifteen drops of spirits of chloroform.

6. Operation.—If there be much bleeding, the cervix should be dilated to see if there be a polypus. In cases of hemorrhage, leucorrhea, and dysmenorrhea, the cavity should be thoroughly curetted, and the walls subsequently painted with iodized phenol.

7. Watching.—A regular and periodical examination of the tumor must be made, and strict injunctions given to the patient to report herself immediately should any change of symptoms occur.

8. Emergencies, and their treatment.—For severe hemorrhage inject one drachm of extract of fluid ergot into the buttock. Plug the uterus and vagina with gauze. give twenty drops of liquor calcii chlorinatus in water or syrup of lemon. This will stop the tendency to hemorrhage by causing coagulation at the bleeding area.

Another danger is retroversion of a fibroid uterus, causing retention of urine, owing to pressure on the urethra by the cervix. After replacement the accident may be prevented from occurring again by the use of a Hodge pessary.

Should any serious or urgent complication present itself, the conservative treatment must be abandoned at once and immediate recourse be had to that relief which an operative procedure alone can afford.

Atresia of Vagina

Dr. J. F. Lynch (*Virg. Med. Semi-Monthly*, April 9, 1897) reports two cases of the above, the first occurring in an ignorant, uneducated woman of thirty, and married seven years, giving the following history: Patient had never menstruated, though irregularly for a few days each month she complained of pain in her back and thighs and a feeling of lassitude. She stated that when she was married she was ignorant of the fact that she was not like other women, and had attributed the absence of menstruation to female complaint, which she thought would probably be benefited by marriage. Examination revealed a normal rectum and urethra, with entire absence of the vagina; there was simply a depression covered with skin continuous with that of the perineum. An incision was carefully made between the urethra and rectum, the tissues carefully dissected to the depth of two inches. An infantile uterus was then located. The incision was packed with iodoform gauze for three days, an ordinary test-tube (not having a Sims glass plug), being substituted for the gauze, which was left in for three weeks and which answered very well. One year thereafter the patient returned, stating that she had "grown together again." Examination proved the truth of it, in that the vagina was but an inch in depth. A second operation was performed, and the canal kept open by the method adopted in the first instance. Four months subsequently the husband informed the author that while sexual intercourse was possible it was painful and unsatisfactory. Since then the case has been lost sight of.

The second case was a frail delicate girl of 17, who had never menstruated but suffered excruciating pain for several days each month. Examination showed abdomen enlarged and tender; depth of vagina but one inch. The operative procedure was similar to previous one, with fairly good result. Uterus was enlarged and distended with menstrual blood.

Cystoscopic Catheterization of the Ureters

Dr. Albarran, before the Chirurgical Society of Paris (*Med. Week*, May 28), presented a woman in whom he had cured a renal fistula, consecutive to nephrotomy, by the use of a self-retaining catheter in the ureter. One year previously, the writer performed on this patient lumbar nephrotomy for the relief of serious symptoms due to pyonephrosis. As a result, a persistent fistula formed; the ureter was impermeable, and whenever the urine did not escape freely through the fistula there was an attack of high fever. Eight months subsequently, the writer resorted to ureteral catheterization through the bladder, leaving the catheter in for twenty-eight hours. The fistula closed on the first day, and the patient was doing very well when the catheter was withdrawn. This was followed by fever and such severe pain that he was obliged to re-establish the lumbar fistula, when two rubber drain-tubes were found in the kidney. Two months ago catheterization of the ureter through the bladder was again resorted to, first employing a No. 10 catheter, which remained eleven days, when it was replaced by a No. 11, which was left in for twenty-two days. When the catheter was withdrawn, about twenty-five days ago, the kidney discharged its secretion (?) through the ureter, the fistula had completely healed, and the condition of the patient was in every respect satisfactory. The kidney still secretes (?) pus, and therefore the renal pelvis is washed out every two or three days with boracic lotion, or, a 1:1000 silver-nitrate solution. It is particularly worthy of note that the same catheter could remain in the ureter for twenty-two days without the least ill effects. L.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

On Acid-Formation by Bacillus Typhosus and Bacillus Coli Communis

The much-vexed question of the differential diagnosis of the typhoid and coli bacilli is taken up by the authors, Capaldi and Prockaner (*Z'tsch'ft f. Hygiene*, XXIII, 3). They prepared an enormous number of media by which they tested the acid or alkaline reactions produced by these organisms. Two media are given, which proved of especial service:

I.	Asparagin	0.2
	Mannit	0.2
	Sodium Chloride	0.2
	Magnesium Sulphate	0.01
	Calcium Chloride	0.02
	Mono-calcic Phosphate	0.2
	Water, add q s	100 c.c.
II.	Contains:	
	Witte's Peptone	2.0
	Mannit	0.1
	Water, add q. s	100 c.c.

The organism, resembling in its general morphology typhoid or coli, is planted upon these media. If coli, it will grow upon both media, but will form acid in I only. If typhosus, it will not grow upon I, but grows upon II, with the formation of an acid. J.

The Blood in Acute and Chronic Diseases

Dr. B. Drobny (*Archiv. f. Pathologie, etc.*, Vol. I, No. 5-6, 1897) summarizes his views upon the above subject as follows:

1. Syphilis—The syphilitic virus begins to exert its influence upon the quality of the blood soon after the appearance of the hard chancre. The quantity of the hemoglobin diminishes, the relative and absolute quantity of the mature elements increases, while that of the young ones decreases. In the beginning of the exanthematous period the number of the red blood-corpuscles is found increased, and the quantity of hemoglobin and the alkalinity of the blood is greatly diminished. There is a decrease in the percentage of the young, an increase in the relative and absolute quantity of the ripe and overripe elements, and a very strong augmentation of the eosinophile cells. The blood is riper in syphilis, owing to the prolonged retention of the colorless blood-corpuscles in the mature state and the retarded destruction of the overripe elements. Under the mercurial treatment the blood returns gradually to its normal composition—nay, it even becomes younger than the normal because of the more powerful destruction of the overripe and the slower transition of the young elements into the older stadium.

2. Phthisis Abdominalis—The number of the red and colorless corpuscles, the quantity of hemoglobin, the specific gravity and alkalinity of the blood prove to be diminished. The dimension of the red blood-corpuscles is increased. In the fever-stadium there is a leucocytosis, eosinophile cells are absent, and the blood is riper than usual.

3. Phthisis Pulmonalis—The number of red blood-corpuscles and their capability of being stained, the specific gravity and the number of white elements are increased. The blood is more senile.

4. Heart Disease—In uncomplicated cases the number of red and white corpuscles is normal. The quantity of hemoglobin and the specific gravity are diminished, the red blood-corpuscles are larger. O.

Rôle of the Anterior Epithelium of the Cornea in Healing of Wounds of the Cornea

L. Rauvier, at the December (28) session of the Academy of Sciences, 1896 (*Ann. d'Oculist.*, Tome XVII., pp. 68-69, 1897), stated that twenty-four hours after he had incised the cornea at its axis to the depth of one-fourth its thickness, the lips were found separated and the little wound like a corner, was entirely filled with epithelial cells united to each other; those on the lips of the wound are united to the corneal layers, or rather to the cut edges of these layers. If the incision is deeper, say one-third or one-half the thickness of the cornea, the solution of continuity is not entirely filled up. The little wound is well carpeted with epithelial cells, but a little valley remains on the surface. In both cases the phenomena are the same.

The old epithelial coating of membrane at each side of the lips of the wound, far from showing signs of a nutritive or formative hyperactivity, as we would expect from the prevailing theories of inflammatory irritation, is on the contrary singularly diminished in thickness from a normal of 40 to 50 mm. to 20 to 25 mm. Its structure is also modified: the middle layer of cubical cells has disappeared, in part or in whole, and the deep cylindrical cells are widened and have lost their depth.

These modifications are greatest at the edge of the wound and diminish as you recede from it until only a trace of them is found at a distance of one millimeter. They seem to be, not an irritation-product, but of mechanical origin, and are thus explained: The deep cells of corneal epithelium are in a state of tension like soft elastic balls pressed in a sack; if the wall of the sack is cut at one point the balls will undoubtedly escape.

To verify this hypothesis two sorts of experiments were made: First, the corneal wounds were examined immediately after the incision, and at the end of a few hours. When made immediately the cut surface is clean and the wound contains little or nothing. When examined from four to six hours after, the corneal epithelium is seen to be giving off at the cut surface of each layer sprouts which seem to crawl towards the bottom of the wound. As fast as they fill up to the level of each corneal layer they fuse and become fixed by means of a glutinous secretion which they elaborate. Second, with Valentin's double knife, whose blades are set one millimeter apart, a double incision is made into the cornea. However carefuly this stroke is made, the two parallel incisions are rarely of equal depth. The inequalities are the source of information. Between the two cuts the epithelial membrane is reduced to two layers—a deep, formed of cubical cells ranged side by side, and a superficial, composed of several rows of lancellar cells. The two layers have scarcely a thickness of 20 millimeters. Most of the cells have been crowded out and been made to fill the adjacent solutions of continuity. On the outer side of the deep incision there are the gradual thinning of the epithelium spoken of above, and the other accompanying modifications of the cells, all well marked. On the other side of the superficial incision, however, these changes are scarcely observable; very few cells have sprouted to fill the adjacent wound, the filling having taken place from the inner portion of the wound.

H.

The Action of Antitoxin

While Roux is of the opinion that the antitoxins exert no direct chemical action upon the toxins, but render the body immune to toxins by means of their special action upon the animal cells, Behring and Ehrlich claim that the antitoxins, by chemical union with the toxins, render the latter non-injurious. P. Ehrlich (*Fort. d. Med.*, XV; ref. *Schmidt's Jahrb.*, Bd. 254, p. 13) took ricin, a vegetable toxalbumin, which coagulates the circulating as well as the free blood in such a manner that the red blood-corpuscles precipitate as a firm coagulum, while the supernatant serum appears as clear as water. As soon as this ricin was brought into a test-tube in contact with antiricin, which is formed within the bodies of ricin-immune animals, coagulation of subsequently added blood was inhibited; in other words, the ricin was influenced by the direct chemical action of its antitoxin.

The results of these experiments, Ehrlich believes, support his theory of the chemical action of the toxins and antitoxins; and he further believes he is able to prove that this also applies to other antitoxins.

Further Notes Upon the Diagnosis of Typhoid

Capaldi, in the *Z'tsch'ft f. Hygiene*, XXIII, 3, gives a formula for a solid medium which he claims is of great value.

Water	c.c. 1000.
Peptone (Witte)	20.
Gelatine	10.
Grape-sugar	5.
Sod. Chloride	5.
Potass. Chloride	5.
Agar-agar	5.

This is made alkaline with 10 cc. normal Na OH solution. The typhoid colonies develop a delicate bluish color, when seen by reflected light; coli colonies are larger, somewhat milky, and by transmitted light are brownish.

J.

A New Bacillus

Drs. Wilson and Hill, bacteriologists to the Brooklyn Department of Public Health, while investigating the foul water-supply of that city, discovered a new bacillus, which they have named Bacillus emeriensis. In the early stage of existence, it is marked by a vivid spot of red. The discoverers have not, as yet, determined whether it is malignant or not.

B.

Chlorides in Acute Febrile Diseases

The ratio of the chlorides during the various phases of malarial infection was studied by Drs. G. Rem-Picci and V. Caccini (*Unters. z. Naturlehr.*, XVI, 3, 1897; *Schmidt's Jahrb.*, Bd. 254, No. 1, p. 4) upon a number of patients. Their conclusions are as follows:

The excretion of sodium chloride for twenty-four hours is usually diminished during the febrile period. As a rule an increase of sodium-chloride excretion occurs from ten to fifteen hours before the attack, and sometimes an increase of urine also.

In the urine of the whole period of the attack the sodium-chloride excretion is increased.

In the first hours, when the temperature is increasing, the sodium-chloride excretion rises considerably, up to six grammes per hour; then follows a reduction which lasts for twenty-four hours after cessation of the fever.

In general, chloride excretion and nitrogen excretion proceed in a parallel direction.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D., DAVID M. STABLER, M.D.

Effect of Trional on Metabolism

The *Bul. gén. de Thérap.* (No. 4, p. 103, 1897) has this from *Ther. Wochenschr.* (1896, No. 44, p. 1093).

The hematoporphynuria at times coming on after giving trional has been attributed to the action of an acid diminishing the alkalinity of the blood, and thus destroying the red blood-cells. To verify this H. Giessler (*Giessen Thesis*, 1896) undertook on himself and on a dog experimental researches on the influence of trional on metabolism.

He proceeded thus: After preliminary determination of the nitrogenous equilibrium, he took the trional in large doses daily during two periods of three days each. The first time, forty-five grains in fractional doses. The second time forty-five grains the first day and thirty grains the second, also in fractional doses. The general state remained good the first and second days. The sleep provoked was profound. As Schaumann had proved, the most minute analysis of the urine revealed no change in the metabolism, no formation of acid. The phenomena of intoxication and hematoporphynuria sometimes seen, are therefore occasional and individual, and are absolutely independent of the properties of the trional itself. On this account he places trional in the first rank among hypnotics. H.

Holocaine Hydrochlorate

Further investigations with holocaine hydrochlorate have been made by Dr. Fritz Loewenstamm (*Therap. Monatsh.*, XI, p. 268), who now reports the results obtained in sixteen cases of eye-affection, comprising seven in which no inflammation existed, five of foreign bodies in the cornea, and four operations. The reflex irritability of the cornea and conjunctiva was tested in each case. In three cases, two instillations of four drops each were made, at an interval of five minutes. The period of anesthesia of the cornea and conjunctiva lasted on an average nineteen minutes. Six cases were treated with three instillations of four drops each at five-minute intervals, and in these the anesthesia averaged thirty minutes in duration. In four cases the corneal insensitiveness to touch lasted over half an hour, and in one case even thirty-eight minutes; the shortest period was twenty minutes, and that was in a particularly sensitive patient. The corneal anesthesia was in each case complete one minute after the first instillation, and gradually declined to the end. The conjunctival reflex irritability was in all cases suspended, and the arrest set in sooner than in the cornea. In many cases a distinct increase in the conjunctival anesthesia was observed after the second or third instillation. No toxic effect was noticed in any case; nor was the subjective condition in any way disturbed. Examinations of urine failed to show any suspicious constituents.

In conclusion, the author states that, instilled into the eye, holocaine induces a prompt, deep, and lasting anesthesia of the cornea and conjunctiva, unaccompanied by any untoward by-effects, whether local or general; nor need holocaine solutions be boiled for the purpose of sterilization, since holocaine itself is a powerful antiseptic. F.

Cacodylic Acid in Psoriasis

Dr. Hr. Danlos (*Thera. Woch.*, IV, p. 560) gives the particulars of the treatment of a case of psoriasis with a mixture made as follows:

Cacodylic acid	2.5	gme.
Rum	20	gme.
Syrup orange-peel	20	gme.
Oil peppermint	2	drops
Distilled water	60	gme.

Before beginning the treatment, almost the entire skin was found to be affected with psoriasis in a very advanced degree, and which had resisted all treatment for almost eight years. The use of the above mixture, in quantities of six teaspoonfuls daily, however, and without any other form of treatment, caused the disease to yield. The succeeding recurrences became less frequent, and less violent, the redness abated, the scales fell off, and the thickening of the skin visibly declined. The alleviation began from above and went downward, and after three weeks' treatment the quantity of the mixture was reduced to four teaspoonfuls daily. Beyond a garlicky odor of the breath and a slight intolerance of the stomach toward the remedy at the end of the third week, the treatment was attended by no untoward phenomena. F.

Ichthyol in Variola

Dr. Kol Cassenko (*Brit. Med. Jour.*, No. 1904, p. 99S) recommends ichthyol as a local application in variola. He has employed it in ten cases (six hospital and four private). Of these eight recovered and two died, the latter being hopeless when admitted. In two of those which recovered, the patients were the subjects of advanced chronic disease previous to the attack. The remedy was used as an ointment made as follows: Ichthyol 1, fat 6, lanolin 2 parts; the latter ingredient, however, may be, according to the individual case, replaced by chloroform, olive-oil, glycerin, etc. The ointment was rubbed in three times a day as soon as the papules became visible. It also proved very beneficial when applied twice a day to the upper part of the trunk in the prodromal stage. As a result there was little or no tenderness at the seats of eruption, the temperature never rose high, and desquamation was almost completed in three or four days from the maturation of the eruption (half the usual duration).

In several severe cases where this treatment had been adopted from the very beginning there was no inflammation of the skin and subcutaneous tissue, and the course of the disease was, on the whole, mild in character. No toxic symptoms resulted from the use of that remedy even in children.

Dr. Rozdestwensky, to whom the author refers in conclusion, has, at the latter's suggestion, tried this mode of treatment in a series of hospital cases and obtained excellent results, which have not yet been published. F.

The Newer Preparations of Bismuth

According to Reynold W. Wilcox, M. D. (*Med. News*, July 31, 1879), the use of bismuth is too ancient to admit of argument as to its value. The soluble salts have a limited use, for, so far as our knowledge goes, they act similarly to those of mercury. The subcarbonate and subnitrate, in view of recent discoveries, certainly have a limited use. The former, on account of its generation of carbon dioxide gas in certain combinations, could well be dispensed with altogether. The subnitrate has its only special use in the treatment of gastric ulcer, where its high specific gravity gives it a certain advantage, and this is, in the writer's personal practice, its only use, and even here he believes that the naphtolate should be administered coincidently.

During the past year Dr. W. has employed in the cases of thirty-five patients a drug chemically known as bismuth tetra-iodo-phenol-phtalein (eudoxin). This is an insoluble reddish-brown, odorless, tasteless powder, which contains 52.9 per cent. of iodine and 14.5 per cent. of bismuth. It is claimed that it is non-toxic, and it is believed to decompose in the presence of alkalies into bismuth oxide and tetra-iodo-phenol-phtalein; therefore, it should pass through the stomach unchanged, and the last-named drug should be dissolved in the intestinal contents. Since this is soluble, not only will the contents of the bowel be disinfected, but also the intestinal walls, and the drug again be excreted into the intestine. He was induced to experiment with this drug by the following facts:

1. Lieven reports a permanent and energetic antiseptic action on the bacteria of pus and saprophytes.
2. The dose (5 to 8 grn. thrice daily) is smaller than that of similar preparations.
3. He believes that the effect of the contained iodine upon the intestinal glands may be a beneficial one.

Fourteen of the patients treated with this drug suffered from chronic intestinal catarrh; of these, six presented coincident hepatic and cardiac lesions. Naturally, the latter class would be benefited by drugs which would influence the liver and heart, but benefit was more rapidly obtained than it would have been without the use of the bismuth preparation. Three patients presented intestinal fermentation, with discharges of muco-pus, considerable pain and foul-smelling stools; these experienced relief, although one required treatment for several months. One patient, who suffered from the above symptoms, was relieved as far as fetid stools and mucous discharges were concerned, but the pain and distention persisted. In this instance there was no reason to suspect malignant disease, and doubtless intestinal adhesions were the cause of the permanent disability. Four patients suffered from simple intestinal fermentation. These were permanently relieved, although in one instance nearly five months elapsed before treatment could be suspended. Two patients, both women, suffered from exfoliative membranous enteritis; both were put to bed and received high intestinal irrigation with salol, with a carefully arranged diet and general supervision of all matters which were conducive to restoration of health. In addition, the drug was used in maximum doses. Both patients have now passed some months (one three, the other two) without the passage of shreds or membranes.

Nine patients presented symptoms of both gastric and intestinal catarrh. They all improved, but not so rapidly as could have been wished until resorcin in 5-grn. doses was given before meals. The final result was satisfactory. One patient, markedly lithemic, was partially incapacitated by the extreme fermentation which followed his two principal meals. In addition to the intestinal symptoms, there were excessive irritability of temper and fits of unaccountable melancholy. The drug, even with careful attention to hygiene, failed, while excessive amounts of chlorine water (U. S. P.) succeeded in causing a cessation of fermentation. Acute dysentery, tenesmus, blood-streaked stools, fever, and tenderness were relieved within ten days. But little can be said of this patient; the cause and variety of his complaint were not well studied. Recent cases have been far more amenable to treatment.

No opportunity had been offered for the use of the drug in the long-standing chronic fevers, which are the really difficult ones for establishing intestinal antisepsis, until finally two patients presented themselves suffering from acute catarrhal duodenitis, with cutaneous itching, absorption jaundice, tender liver, and clay-colored and offensive stools. Both were relieved, so far as their intestinal symptoms were concerned, although calomel in small doses (1-10 gr.) at hourly intervals was given. Both presented well-marked conditions, and obtained relief from the intestinal decomposition with more than usual rapidity.

B.

Creosote in Gastric Affections

According to Dr. Th. Zangger (*Sem. méd.*, XVII, p. cxviii), a mixture made as follows has given him excellent results in cases of infantile gastro-enteritis and various dyspeptic conditions:

Beechwood creosote	3 drops
Alcohol	1 gme.
Gum arabic powd	10 gme.
Syrup	30 gme.
Orange-flower water	10 gme.
Water to make	100 gme.

Dose—A teaspoonful for children, or tablespoonful for adults, immediately before each meal.

The writer has found that creosote in small doses exerts a particularly favorable action, and that, under its influence, gastric affections and diarrhea, when due to gastric derangement, rapidly recede. F.

Anti-Tubercle Serum in Phthisis

Drs. Raimondi and Mascucci (*Brit. Med. Jour.*, No. 1901, p. 928) report the effect of Maragliano's serum in five men and ten women. Five are described as phthisis with lesion circumscribed in one or both lungs, slowly progressing disease with little or no fever; ten had more or less extensive tuberculous broncho-pneumonia, with cavities, fever, and night-sweats. In the latter group from 5 to 10 c.c. of serum were given every five to eight days until some effect was produced (for example, lowered temperature), and then 1 c.c. every day or alternate days. In the former group 1 c.c. was given on alternate days. A generous diet was ordered, and phosphates of iron or calcium administered. The total quantity of serum given varied from 20 to 100 c.c. No deleterious results of any importance followed the injections. As to the effect on the disease, no absolute cure was effected. Apparent cure or noteworthy and persistent improvement was observed in four cases, transitory benefit in six cases, no useful result in three cases. The good effects observed were diminution or cessation of the fever and night-sweats, rapid improvement in strength, nutrition and body-weight, and disappearance or lessening of the physical signs. F.

Iodo-Mercurial Treatment of Nephritis

Dr. D. Campbell Black, of Glasgow, has used (*Sem méd.* XVII, p. cx), with excellent results, a mixture made as follows, in fourteen cases of acute or subacute Bright's disease:

Mercury bichloride	0.06– 0.2 gme.
Potassium iodide	4 –12 gme.
Syrup	30 gme.
Infusion gentian	210 gme.

Dose—Three tablespoonfuls daily.

This mixture appeared to relieve powerfully the renal congestion, and to bring about the gradual disappearance of the albuminuria and other symptoms of Bright's disease. A.

Hydrastis Canadensis in Bronchial Catarrh

Dr. M. Saenger, of Magdeburg, states (*Wien. med. Presse*, XXX, p. 641) that he has obtained excellent results from the use of hydrastis in advanced cases of bronchial catarrh when the sputum has become more or less muco-purulent in character. The results he obtained were as follows: (1) A decided reduction in the irritation causing the cough; (2) noticeable diminution of the expectoration; (3) increased fluidity of the secretion from the bronchial mucous membrane, the secretion losing its purulent or muco-purulent character, and becoming more mucous; (4) a decided improvement of the physical signs of the bronchial catarrh.

Control-experiments made with other remedies showed that, although opium and its derivatives relieve the irritation causing the cough more promptly, the action of hydrastis is more permanent, and in effect greater, as it causes the disappearance (more or less) of the catarrh that is the source of irritation. It is equal in value, as an expectorant, to any of the congeners usually employed, and in anti-catarrhal power it decidedly exceeds all other expectorants. Its use in phthisis is specially valuable, as it permits the use of opium and its derivatives to be entirely avoided. It is best given in the form of fluid extract, in doses (to adults) of 20-25-30 drops four times daily in sweetened water. No dangerous nor unpleasant by-effects were ever observed to follow the administration of these doses. In considerably larger doses, hydrastis has been found to cause angina pectoris in cardiac affections and in very weak persons. F.

Creolin-Injections in Dysentery

Two cases have recently been reported (*Treatment*, I, p. 183), in which 1-per-cent. solutions of creolin have been used, with excellent results, in severe dysentery. Before treatment, the patients were greatly emaciated; but very rapid improvement set in on using the creolin-enemata. The offensive character of the stools soon disappeared, and the diarrhea became much less. A pint and a half of the solution was used night and morning, and the results are stated to have been so satisfactory as to warrant the statement that creolin is worthy of an extended trial in dysentery. F.

Iodole Plaster in Venero-Syphilitic Disease

Iodole plaster has been used by Prof. D. Majocchi, of Bologna (*Monatsh. f. prakt. Derm.*, XXIV, 1897), in 120 cases of adenitis, periadenitis, and epididymitis, and the valuable results obtained by its use led to the following conclusions: (1) Iodole plaster is easily borne even in acute inflammatory cases, in which it exerts a sedative and anodyne effect. (2) It does not cause any shriveling of the skin in those places where it is sensitive and thin, in this respect differing from resorcin and mercurial plasters, which cause local manifestations characterized by itching, burning, and desquammation. Iodole plaster may also be left in contact with the skin without fear of the slightest development of moist eczema, exfoliating dermatitis, or other manifestations of irritation. (3) In consequence of these valuable properties, the period of application of iodole plaster may be extended uninterruptedly for from three to twelve days without the least change on part of the plaster, a circumstance resulting in considerable economy. (4) The adhesiveness peculiar to iodole plaster permits it to be retained in place without the aid of a bandage, although the pressure exerted by it furthers, in certain cases, the complete and more rapid recession of the local processes.

The author applied the iodole plaster either in one piece or in strips, as occasion required, and states, further, that (1) Iodole plaster is an admirable and prompt antiphlogistic and resolvent, that exerts its effects in two stages separated by an interval of inactivity, and that is valuable in acute and chronic inflammatory swellings and particularly an excellent remedy in the treatment of adenitis and periadenitis, as well as epididymitis and orchiepididymitis. (2) The comparative tests carried out at the clinic showed that, as a resolvent, iodole plaster possesses a more definite and different range of application than mercurial plaster; so that whereas the former is recommended as most useful in simple inflammatory processes, the latter is indicated more in specific inflammations. F.

Eserine in Ophthalmia Neonatorum

In the experience of Prof. Everbusch, of Erlangen, eserine (physostigmin) instilled into the eye often succeeds in markedly diminishing the suppuration of the ophthalmia in new-born infants. He has used it also during the last seven years in the treatment of purulent conjunctivitis. (*Med. Week*, V, p. 264).

In cases where there is no ulceration of the cornea, he does not apply silver nitrate to the palpebral conjunctiva. He has the pus removed every two hours by means of small tampons of absorbent cotton and washes out the eye with a 7 : 1000 solution of sodium chloride or a 3-per-cent. boric-acid solution; every morning he instils into the eye 1 drop of a 1 : 200 solution of sulphate of salicylate of eserine. When one eye alone suppurates, the author drops into the healthy eye, as a prophylactic, 1 minim of a 2-per-cent. solution of silver nitrate from the end of a stirring-rod measuring 3 mm. in diameter. He also has the root of the nose rubbed with boric-acid ointment.

When the cornea is ulcerated, the conjunctiva is brushed with the same solution of silver nitrate, and three or four times a day a 1 : 400 solution of eserine or a 1 : 1000 scopolamine solution is instilled into the eye. Lastly, 1 drop of a mixture containing 1 part of chlorine water to 2 or 3 parts of distilled water is instilled into the eye every hour.

So long as the secretion of pus remains abundant, the little patient must not be bathed, all refrigeration being invariably followed by an aggravation in the condition of the eyes. The digestive organs, too, must be carefully looked after, and the child kept very clean; anything wrong in that line (such as weaning, defective artificial feeding, want of cleanliness of the mouth, etc.) is at once followed by intensification of the ophthalmia. F.

REVIEWS

Archives of Clinical Skiagraphy.—Edited by Sydney Rowland, B. A. Camb., late scholar of Downing College, Cambridge, and Shuter scholar of St. Bartholomew's Hospital, etc. A series of Collotype Illustrations with descriptive text, illustrating applications of the New Photography to Medicine and Surgery. London: The Rebman Publishing Company, Limited, 11 Adams Street, Strand. Price $1 per part.

The Archives of Clinical Skiagraphy gives a series of illustrative skiagrams with descriptive text showing the aid *x*-ray photography is to surgical diagnosis and treatment. Albert E. Morrison, M. B., F. R. C. S., C. M., reports a case of fracture of the olecranon some months after injury, with fibrous union and limited motion. On examination he found a painful spot over the olecranon (Plate XIII, Fig. 1). The process was freely movable and separated from the ulna below by three-quarters of an inch in full extension, and one and a half inches in full flexion. A fibrous band could be felt joining it to the ulna. Plate XIII, Fig. 1, shows joint before operation. Plate XIII, Fig. 2, shows the result of wiring the fragments. The operation was a success. Hugh McLean, F. R. C. S., Edin., reports a case of fracture of the lower end of the humerus with separation of the external condyle. There was much swelling, rendering a complete diagnosis impossible without the skiagram (Plate XIV, Fig. 1), which showed clearly the extent of injury, thereby facilitating treatment.

Dr. John Macintyre, of Glasgow, reports a case of hip joint disease, of which an *x*-ray picture was taken (Plate XIV, Fig. 2.) showing that diseased bone is more translucent to these rays than healthy bone. In another communication of same date, he speaks of his experience in photographing soft tissues, as follows: "The natural suggestion to those engaged in this study was, that if bones of the extremities were to be photographed with a given apparatus in a certain time, less exposure might enable us to catch the soft tissues before they disappeared. Experience, however, did not bear out this idea, and instead of less force being required it was found necessary to obtain the greatest number of *x*-rays possible with the most powerful apparatus at my disposal for the following reasons: To obtain shadows, it was necessary to remove the tube a considerable distance from the object. An object like the heart is deeply seated, and, therefore, there is moreover a considerable amount of tissue fasciæ and muscle to pass through. Further, owing to movement, the exposure required is to be as short as possible. Pursuing this line I gradually increased the ampères of current from the train, used a mercury interrupter, and step by step worked up so much pressure in the tubes that the glass would not stand the molecular strain. Personally, I found it of less value to judge of any current by the length of spark." Further he says of the interrupter of the current (primary): "The sharpness of the make and break, the number of vibrations a second tend to modify the force at our disposal." In measuring the current in primary he finds that, "with a current which registers twenty ampères across the terminals and passing through the coils, directly the interruptions by means of the spring begin, the current falls to three or four ampères." It is necessary to have a powerful current maintained in the primary, giving all the *x*-rays the tube will stand to penetrate and give good pictures of deep seated soft structures, e. g., heart, diaphragm, etc. The best results are obtained by a long contact and a short quick interruption at break piece. It is necessary to have a special am-meter to measure the pulsating current through the primary of the coil with break piece in motion, and then it will be found to fall little if any below that across the terminals when break piece is in prolonged contact.

The Medical Gazette Publishing Company, of Cleveland, O., announces a small volume soon to be issued with the title "About Children." The author is Dr. Samuel W. Kelley, of the Cleveland College of Physicians and Surgeons. The book will contain six lectures filled with information for nurses, medical practitioners, students, and all who have the care of children. Advance orders will be filled in September.

CORRESPONDENCE

Value of Dry Blood in Criminal Evidence.

To the Editor of the A. M.-S. BULLETIN:

At the last District Medical Association meeting an attorney had a paper on medical jurisprudence, and a question as to the value of blood stains in evidence was raised. All admitted that recent stains from human blood could be distinguished from some other blood, but several doubted the value of dry blood as evidence in criminal prosecutions. Please express an opinion in the next BULLETIN. A.

[We are informed by a well-known New York pathologist that is is possible to determine the source of blood even in a dry state. Typhoid fever blood when dried, can be identified by Widal's test.

We clip the following from the *Denver Medical Times*, as it bears directly on the question:

"The *Scientific American* states that when blood is mixed with a little bile there are formed crystals not larger than three micromillimeters. In the case of human blood these are right rectangular prisms; of the horse, cubes; of the ox, rhombohedrons; sheep, rhombohedric tablets; dog, rectangular prisms; rabbit, tetrahedrons; squirrel, hexagonal tables; mouse, octahedrons; common poultry, cubes modified at their angles."—Editor.]

"A Lesson the Public Needs"

To the Editor of the A. M.-S. BULLETIN:

It gives me great pleasure to note the stand taken by the BULLETIN, in defence of the honorable profession of medicine. The editorial, "A Lesson the Public Needs" is both timely and warranted. In my estimation, what we need, is the entire expulsion of quacks, patent medicines, and the various "isms" with which honorable medicine is infected. And in order to most speedily bring about this change, let us have a "National Board of Health," a "National Bureau of Medicine" and in this way govern all alike, both physicians and laymen. A national journal could be published, and circulated for the edification of the people, an official journal for the circulation of medical literature among physicians. Let us assert our rights, and, by the way there is only one right, with its twenty complementary wrongs. I would also suggest that the hospitals, and free dispensaries, be governed likewise. In the end it will benefit the masses, and forever put an end to the wrongs inflicted upon true medicine.

Among the numerous medical journals that come to my table, none is more welcomed than the American Medico-Surgical Bulletin.

G. W. Mosier, A. M., M. D.

To the Editor of the A. M.-S. Bulletin:

As an appreciative reader of your valuable journal I am surprised and hurt by the editorial of your issue of the 10th inst., denoting an inexcusable want of either candor or knowledge, and beg to present certain considerations, with a purpose of correcting the wrong that such editorial work is nearly certain to effect. I quote from the editorial entitled, "A Lesson the Public Needs," which starts out thus: "One of the most serious obstructions to wise medical legislation is the false notion entertained by the public that regular practice is sectarian and exclusive. Could they be taught to appreciate the honest fact that the reverse is true, and that our constant fight is against exclusiveness and sectarianism, far more legislators would favor our efforts at advancing medical legislation."

Now sir, we have just concluded an honest, but unsuccessful fight in Michigan to secure legislation in the interest of a higher standard of educational requirement for medical practitioners in the State. A "Medical League," composed of allopathic, homeopathic, eclectic, and physiomedical doctors, representing the leading physicians of all schools, agreed upon a bill providing for a fair board to be composed of representatives of all these schools, but giving to no school a majority on the board. By this bill an examination in all subjects usually taught in medical colleges was required, and the bill was defeated by the united efforts of the ultra-allopaths, spiritualists, faith- and mind-healers, and nondescripts of all sorts. In the editorial quoted, you protest against the "lying title of allopath." I use the term with no desire of disturbing your serenity, but I know of no other name that can properly be applied to the dominant school in medicine.

I know you attempt to lay claim to the name "regular," as properly descriptive of your school, but the Surgeon-General of the United States having ruled that a "regular physician" is one regularly educated in a medical college, properly chartered and equipped for giving instruction in the various sciences taught in such institutions, and it being a fact that homeopathic, eclectic, and probably other medical colleges give as full and thorough medical education as the colleges of the part of the profession that you represent do, it seems a matter of supercilious insolence for any fraction of the profession to call itself "regular" as a distinguishing name. In the recent struggle in this State to obtain medical legislation to improve the quality of medical doctors by an examining board, the clamor for admitting to practice on a diploma and without examination, all came from those that I am compelled for want of other distinguishing title, generally understood, to call "allopaths." To quote from your editorial again, you say: "All our efforts in behalf of *common honesty* (italics mine) have been interpreted as efforts at sustaining a medical trust. They do not and cannot see that we simply fight to compel sectarians to acquire an education equal to our own and tell the truth about themselves and their methods." Is it strange Mr. Editor, they cannot and do not see this, when by personal acquaintance with those you so courteously call "sectarians" and falsely call "irregulars," they know them as educated gentlemen—when they know their colleges stand for the highest attainment as a requisite of graduation, and when, as in this State, they know that at the annual examinations held by our State Board of Health, to which all graduates of reputable medical colleges are invited for the purpose of obtaining a higher standard of medical education for health officers in the State, of all the candidates who presented themselves for examination, *one-half* of the so-called "regulars" *failed* to pass, while *all* so-called "irregulars" passed the examination with not one failure? Would it not be well in the name of *common honesty* to mention some of these facts and say a regular doctor is an educated doctor and homeopaths, eclectics and others are as well educated as allopaths? Try to state these facts with all the vigor you have, and in the name of "common honesty," couple it with the next sentence I am glad to quote from your editorial. You say, "in every department of life the men equipped with the most thorough education in their line, other things being equal, are the safest men to trust;" to which I say Amen! But I beg you to note what this editorial so plainly shows, that this thorough educational equipment is impossible to any *fraction* of the medical profession that mistakes itself for the whole.

In this same issue of your valuable journal are portions of "A Clinical Study of Strophanthus," by Dr. Reynold W. Wilcox, to whom the profession is greatly indebted for much painstaking and accurate therapeutical work. It has been my good fortune to hear from the lips of Prof. Wilcox many truths in therapeutics, the result of patient observation and careful statement. But a few years ago I was surprised by the statement of the professor that since he called the attention of the profession to the virtues of Hydrastis canadensis he was pleased to learn from a leading manufacturer of medical preparations from the plant, that its use had been multiplied by a large amount. To those whose medical reading is not crippled by "school" lines, this statement seems hardly possible from a man of intelligence, for more than fifty years ago, all the virtues of this remedy mentioned by Prof. Wilcox, and many more had been published to the world by that man of keen and patient observation, wide culture and extensive authorship in medical lines, Prof. John King, late of Cincinnati.

Now Mr. Editor, in the name of "common honesty," I protest against the spirit of this editorial! In the name of that "common honesty" that you invoke, I charge you that you do not prostitute your editorial position to either ends or means unworthy an intelligent and fair-minded gentleman. You may as well print, for the people know the open secret, that an educated physician is a "regular" physician; that homeopaths, eclectics, physiomedicals and others, as well as allopaths, are educated, and that a *part* of anything can never equal the *whole*, even though the part is as important as your very *proper* fraction of the medical profession.

Sincerely yours,
P. B. Wright, M. D.,
438 S. Division St.,
Grand Rapids, Mich.

[Our reply to Dr. Wright will be found among the editor's notes.—Editor.]

Judge Thompson, of Louisville, Ky., recently fined one Byron C. Axtell, an osteopath, fifty dollars, for practicing medicine without having a State license.

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Editor: ROBERT G. ECCLES, M.D.

COLLABORATORS:

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William B. Coley, M.D.
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Homer E. Fraser, M.D.
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EDITOR'S NOTES

The action of the Association of Medical Colleges, at its last meeting at Philadelphia, in passing a resolution to the effect that graduates and students of homeopathic and eclectic colleges who wish to finish their medical education in a regular college, should be allowed credit for their time on the four years' course, is being made a source of some amusing comment by eclectics and homeopathists. Some of them seem to look upon it as a bid for students from the sectarian institutions, while others are pleased with the recognition that it accords them. The *Hahnemannian Monthly* says that it virtually does away with the "time-honored but absurd terms 'regular' and 'irregular' as applied to colleges." We fear that the sectarian haze is blinding the eyes of some of these commentators. The Association finds that the demands of this last decade of the nineteenth century have forced sectarian institutions to raise the standard of their education to a point where they can in justice be recognized. As a simple act of justice such recognition is accorded, and would have been accorded long ago if evidence had been afforded that it was right. There is no sectarianism in science or science teaching. All that is scientific in their teachings is common to every school. So long as they teach science and enough of it, to that extent they deserve and should receive recognition. When, however, they depart from simple statement of fact, as shown by common experience in therapeutics, or from the Baconian principle of induction in theorizing, then they cease to be scientific and are hence irregular. Claimed experiences that others cannot get and theories wholly or almost wholly deductive, although dealing with phenomena and not mathematics, cannot be tolerated by a scientific body without stultification. Regulars and irregulars are men who follow the regular and the irregular ways of getting at facts and principles. Astrology is irregular to astronomy in the same way and for the same reason as homeopathy is irregular to scientific medicine. An astrologer might be educated in a correct manner in much that is true astronomy, and might to this extent pass as regular, but as soon as he departs from the regular way of gathering and interpreting facts he becomes irregular. When sectarian colleges quit their sectarian names and adopt the same methods of gathering the facts and principles of their therapeutics that they have with their physiology, then and not till then will they meet with full recognition. Let them teach their students physiological therapeutics as far as it goes and purely empiric therapeutics where the rationale fails and then the recognition will at once become complete.

We publish in our correspondence department a letter from a Michigan physician, who calls us to task for our recent editorial on "A Lesson the Public Needs." The letter is too long to answer every point in detail, but as we always have believed in giving all sides in every controversy full and fair play, we take pleasure in publishing it. The most serious objection he has raised we have already answered in our preceding note concerning the resolution of the Association of American Medical Colleges. The ruling of the Surgeon-General of the United States on the question of regularity and irregularity in medicine is certainly very liberal. As the Surgeon-General is a regular of the old school, such a ruling should show to sectarians that there was no tendency to exclusiveness in his case. His ruling, we believe, was wise and diplomatic for the occasion, but it only the more strongly emphasizes the fact that the difference between sectarians and non-sectarians in medicine cannot be wiped out by human laws or rulings. Science is impossible outside of the conditions that produce and foster it. Our correspondent says that it is "supercilious insolence for any fraction of the profession to call itself 'Regular' as a distinguishing name." If it is, then please say why. If others pursue the inductive method of first gathering therapeutic facts and then finding the underlying principles, they are as regular as we are. But how many of them do it? Why do they claim sectarian names? Our correspondent evidently thinks that we claim the word regular as a name for a cult. We have no cult, and we have no name. We would not even capitalize the word in print but for the fact that others will insist in misrepresenting us by calling us "Allopaths." We emphatically deny teaching any such exclusive doctrine as allopathy. Is it not, then, positively insolent misrepresentation for those who know, or should know, this fact, to persist in calling us by this name? Why do not these sectarians all drop their distinctive names of eclectic, homeopath, osteopath, and the like? Why do they not claim with us the descriptive titles of physician, scientific physician, and regular physician only? If they would do this the contention would soon right itself. Let all sectarian physicians abjure their sectarian names on their signs, and before their patients do exactly as we do in the matter, and the quarrel will soon end. But no; they will not use these names to the exclusion of their sectarian ones themselves, and they are bound that we shall not do so either. They are precisely in the fix of the dog in the manger, and yet they feel hurt because we defend our right. We are sorry that our correspondent and those with him did not succeed in getting their law passed in Michigan. We think that the regulars that arrayed themselves against the proposed compromise law made a mistake. Of course, we can see the unfairness of not apportioning the board in the proportion of the number of doctors each faction had in the State; but as long as it was apparent that nothing better than a compromise was possible, it was, in our estimation, a grave blunder not to give in and fight for it. We cannot understand what reason our correspondent has for calling in question Prof. Wilcox's statement concerning Hydrastis canadensis. What he says is either true or false, and has nothing whatever to do with his intelligence. Prof. King's statements about this plant as a remedy had nothing to do with its increased sale at the time Prof. Wilcox speaks about. We hope that our correspondent will see that his protest against our editorial is founded on a false assumption. An educated physician should always be a regular physician, and he certainly would be if the sectarian kink and name could be taken away from him. Just so far as his education is not mal-education he is regular, and we would like to see him drop his sectarian name and contest with us the right to the designation (not name) of regular. Will our correspondent try it?

◆

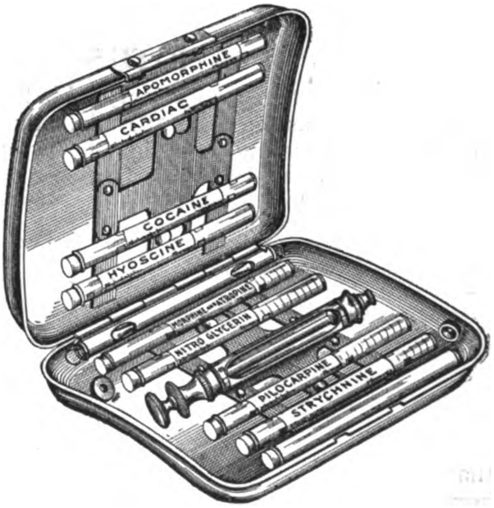
Ferric Chloride for Lavage of the Stomach

Prof. Bourget, of Lausanne, states (*Wien med. Presse*, XXXVIII, p. 640) that lavage of the stomach, in cases of ulcus ventriculi, with 1- to 1½-per-cent. solutions of ferric chloride, has given excellent results in his hands, the effects being surely and very rapidly produced. F.

PUBLISHERS' DEPARTMENT

IMPROVED HYPODERMIC SYRINGE

The accompanying illustration shows the newest improvement in hypodermic syringes. The instrument is unique from the fact that it embodies all the best features in both the syringe and case, and is the outcome of many years experience. The case is made of aluminium and is curved to conform to the body when carried in the vest pocket. It permits of sterilization by boiling. The syringe packing and method of speedy adjustment are the same as in Mulford's Improved Antitoxin syringe, namely, improved vulcanized rubber so disposed that by simply turning the piston head to the right the packing is quickly adjusted at any point in the barrel. No lubricant is needed, the fluid to be injected furnishing all that is required. The packing does not shred as does asbestos, or become hard and unyielding as does leather. When it is found necessary to renew the packing the physician can remove the old packing and insert a new washer by following directions. The syringe was designed by H. K. Mulford Company, Philadelphia.



NEWS

The annual meeting of the Medical Society of the Missouri Valley, will be held at Council Buffs, Ia., Thursday, Sept. 16, 1897.

The State Medical Board of Indianapolis, having refused to issue licenses to "quacks" or those who held "fake" diplomas, has been threatened by suits from a great many of them.

The St. Louis Medical Society is about to begin a new method of dealing with the 50-cent hospitals and free dispensaries. It purposes to expel from membership all medical men that are connected with these institutions in any capacity.

A decree of incorporation has been granted to the Missouri Medical League of St. Louis. The object of the new organization is to "collect evidence of any hospital and dispensary abuse, and to exclude well-to-do persons from medical charities."

The case of Mrs. Bertha M. Sessfod, a Christian Scientist is being tried before Judge Mills in the District of Columbia. The woman is charged with practicing medicine illegally. She was treating a child with diphtheria who died while under her care.

The San Francisco Board of Health has sworn out warrants for the arrest of all physicians who have failed to report births. The records of the board show more deaths than births, and this, they claim, is caused by the negligence of physicians in not reporting births as required by law.

The Lehigh Valley Medical Association held their seventeenth annual meeting on July 30, 1897, at the Kittattiny Hotel, Delaware Water Gap, and elected as President Dr. Mary Greenwald. She is, we believe, the first woman to be president of a medical society not exclusively made up of women.

The Alumni Association of the Long Island College Hospital has issued a circular calling for information as to the lives of the alumni, the positions of honor they have held or occupy, etc., with the object of putting the whole in book form. Each bibliography will be accompanied by the alumnus' photograph.

The bogus-diploma basis of practicing medicine in Missouri has assumed such serious proportions that the State Board of Health is about to take decisive measures to put a stop to it. It is estimated that hundreds of men are posing before the public as duly qualified physicians on the strength of absolutely worthless diplomas.

The St. Louis, Mo., Board of Health has begun a crusade against the indiscriminate retail sale of cocain without a physician's prescription. Dr. Starkloff in a communication to the board recommended the preparation of an ordinance forbidding under heavy penalties the sale of cocain by druggists, except on the prescription of a duly registered physician.

A suit in trespass for $5,000 damages has been brought against Dr. W. L. Hartman, of Pittston, Pa. The doctor is charged with malpractice, and the plaintiffs, Anna M. Saxe and M. S. Saxe, in the statement filed allege that some time ago Dr. Hartman was called to attend their young son, and he diagnosed the case as diphtheria and so treated the child, using antitoxin. The boy died and the parents called in three other physicians, who, after an examination, decided death was caused by pneumonia.

At the Rush Medical College, an experiment was recently tried as to whether a human body can be dissolved in a solution of crude potash previously heated to the boiling point. The object of the experiment was to secure evidence against an alleged murderer, who it is said thus tried to hide any evidence of his crime. The cadaver which will be used for the purpose will be dressed and treated in the same manner as the supposed victim.

A new society has been established in Manchester, England, which will be devoted to the exclusive study of therapeutics. The treatment of various diseases will doubtlessly be one of the chief subjects dealt with. Other points of practical importance will be studied, such as dosage, and the question of the method in which medicine, new and old, may best be administered.

A new Interstate Medical Association has been formed which includes Utah, Idaho, Colorado, Montana, Wyoming, Arizona, and New Mexico. The officers elected at their recent convention are: C. P. Hough, of Utah, president; C. K. Cole, of Montana, first vice-president; Clayton Parkhill, of Colorado, second vice-president, and E. Stuver, of Rawlins, Wyo., secretary and treasurer. The first annual meeting will be held in Denver in June, 1898, during the meeting there of the American Medical Association.

Dr. D. C. English, president of the Medical Society of New Jersey, has appointed Dr. William Pierson, of Orange, third vice-president of the society to fill the vacancy occasioned by the death of Dr. John J. H. Love, of Montclair; also Dr. William J. Chandler, of South Orange, recording secretary, in place of Dr. Wm. Pierson resigned. Dr. Pierson has been the able secretary of the society for 31 years, succeeding his father who also served 31 years and was then elected third vice-president and became president in 1869.

Drs. W. F. Cheney, P. A. Kearney, R. H. Plummer, W. Garwood, E. C. Mervey and F. B. Carpenter, recently arrested for failing to register the birth of a child, were fined $10 in Judge Low's court, San Francisco, Cal. A physician writing in a San Francisco morning paper comments upon the recent raid upon medical men who do not report births, but says the Board of Health would do better to enforce "An Act to Regulate the Practice of Medicine in the State of California." He adds: "The non-registration of a few births by overworked doctors does but a tithe of mischief to that of the 400 quacks plying their nefarious calling in a community kept in ignorance of their true medical status by the leniency of this same Board of Health."

The Executive Committee of the Mississippi Valley Medical Association met recently at Louisville, in conjunction with the local committee of arrangements, the following being present: Drs. Stucky, Grant, Mathews, Love, Holloway, and Reynolds. It was determined to make the coming meeting at Louisville, October 5, 6, 7, and 8, 1897, the largest and best in the history of the association, and everything points to a fulfillment of this endeavor. The railroads will make a round-trip rate of one and a third fare, or probably one fare. The address on Surgery will be delivered by Dr. J. B. Murphy, Chicago; the address on Medicine by Dr. John V. Shoemaker, Philadelphia. Title of papers should be sent to Dr. H. W. Loeb, secretary, St. Louis, Mo.

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EDITORIAL

BACTERIAL SUCCESSION

IT has long been well known to students of bacteriology that in the development of many forms of micro-organisms there is an imperfect serial order in which the various species are best able to succeed each other in the same pabulum. Quite frequently until the first of such a series has run its life-course or has at least made a fair start, the second is unable to develop. Commonly, too, the first produces conditions during its growth that finally cut off its own chances of further development. Many species seem so constituted that they must sooner or later work out their own destruction, while at the same time they produce an environment that is the best possible for their successors. The microbe that produces lactic acid prepares the way for the one that gives butyric acid. Until the former has done its work the latter cannot appear. We see the same kind of succession when the Mycoderma aceti begins the work of producing acetic acid after the saccharomyces has made so much alcohol out of the sugar or starch present that it has no longer fitting soil. After a time the mycoderma is forced to cease its work because of an excess of its own product and other forms succeed it. Another well-known illustration of the same kind is seen where the bacteria that produce ammonia and those that give us nitrates and nitrites follow each other in serial order. Recent studies of the bacteria of putrefaction show that they follow one another in a somewhat definite procession, and there is ample evidence that pathogenic forms are no exception to this rule. Prof. Sanarelli in introducing his Bacterium icteroides, took pains to point out that its development outside the body requires a preceding growth of mold, and that within the body it produces conditions that favor a multitude of successors. In the development of phthisis pulmonalis the first of the series that makes conditions favorable for the tubercle bacilli may sometimes be an invasion of the pneumococcus of Fraenkel. After the tubercle bacilli have run their course in a given patch of lung-tissue, there probably follows a number of successors prior to the time that the bacteria of suppuration have fully established their right to the domain. As the different products of these different forms are in course of simultaneous production in contiguous parts of the lung, it is evident that a complex and not a simple kind of poisoning is going on within the patient. What is true of this disease is in all probability true of many others. Instead of their being simple, uncomplicated invasions of a single specific microbe, we have many reasons for believing that they are likely to be cases of multiple infection. As yet bacteriology has given us no evidence that every human disease owes all its symptoms to a single specific cause, but on the contrary there is ample proof that a large number of diseases are products of a number of poisonous substances present in the blood. Only a comparatively small number of cases have been positively identified as due to multiple infection, but there are indications that many more, and perhaps nearly all are of this kind. If this is true we can readily see why the serum treatment of disease, however accurate the principle may be, and however successful the laboratory experiments may prove, is often likely to fall short of what is expected of it. When the bacteriologists test their serums on animals, they have to deal with only a single infection or a single poison at a time. In immunizing their cases they have but one toxic substance to contend with. When the doctor undertakes to handle his patients in actual practice, they may come to him at a stage when the original and what is deemed the specific poison of the disease may have taken a very subordinate place, or have entirely been eliminated frǿm the system. A secondary or tertiary infection of wholly different microbes may be at work perpetuating the ill feelings of the sufferer, or these may be adding new elements of mischief to those of the original cause. How can good results be expected under such circumstances? We hear of untoward effects in the administration of diphtheria antitoxin. Is it not just possible that some of these may be due to our ignorance of the exact kind of infection from which the patient is suffering at the time of the treatment? What earthly benefit can be hoped for by administering Koch's new serum to a tubercular patient in whom the disease has advanced so far that the chief source of his symptoms is the general septicemia? The principle of serum treatment as at present understood is altogether too simple. It is a common human weakness to think every complex thing simple at the beginning. When we have learned how to unravel the web nature weaves we have always hitherto found it quite intricate. There is no reason to believe that in serum treatment we shall find an exception. If the system of the patient is invaded by two or more poisons at the same time, we must expect to have to give more than one antidote, and we must learn the proper order in which to give them, so as to avoid doing harm instead of good. Serum treatment is already doing much good, but it is destined to do very much more when it is better understood. When we have learned the order of infection common to each special disease, and the variations to which that order is liable, then and not till then will serum treatment be at its best. By fortifying the body against the last invader first. and then following up with an inverse treatment of the others, it seems as if we might be able to reach the results we are now wishing for. All this, however, is pure speculation that time and experiment alone can verify or condemn. In the meantime it is well to keep such possibilities in view, so that we are not likely to get either over-enthusiastic or over-sceptical. We observe at present a tendency to both extremes that bodes no good to scientific advancement in this direction unless a check is placed upon it. There is no disguising the fact that the ranks of regular medicine are at present divided into opposing camps regarding the merits of serum treatment. The great majority favors, but a small and aggressive minority of the less progressive opposes it. Among the latter there is not to our knowledge a single man who has studied the matter experimentally. Their opposition seems to be based wholly on feeling. They catch at and magnify to suit their fancy every apparent argument against the treatment. Some of them go so far as to attribute the benefit to the antiseptic which the serums happen to contain. The claim is so utterly absurd that we wonder at men of intelligence advancing it. If there was a shadow of truth in it personal jealousy would long ago have caused rival bacteriologists to proclaim the fact. They, and not the factless theorizers, would have found it out.

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GENERAL STERNBERG'S BACILLUS X

THE recent announcement of Prof. Sanarelli that he had discovered what he believes to be the specific microbe of yellow fever, together with the strong evidence that he has produced to substantiate his claim, reawakens new interest in some experiments made by Dr. Sternberg, at Havana, in 1889. A review of the facts then discovered appear to indicate that the micro-organism now named Bacillus icteroides was probably in the hands of the doctor at that early date, and was named provisionally by him Bacillus X. In a paper which he read at the Twelfth International Medical Congress, lately held in Moscow, he puts forth a claim for their possible identity. At an autopsy of a yellow-fever patient, made on May 13, 1889, he obtained material from the liver, three minims of which he injected into a guinea-pig that died in fourteen hours thereafter. He next took three minims of bloody serum from the subcutaneous connective tissue of this guinea-pig and inoculated a second one therewith. In the abdominal walls of this second animal there was a pouch formed in forty-eight hours, containing bloody serum. From this pouch a supply was taken by aid of a capillary tube and cultures made. In these cultures he found the bacillus around which so much interest is now likely to become centered. In his report, which he made soon after, the facts were given in detail and the excessive virulence of this microbe commented upon. This virulence and the fact that he had not before in any of his investigations of other diseases ever seen this bacillus, led him then to suspect it of being the specific cause of yellow fever. With the characteristic modesty of the general run of men of science, he did not venture to pronounce it such, owing to the imperfection of the evidence then at his disposal. In summing up his facts he did say that he regarded it as "possibly connected with the etiology of the disease." Just prior to this time he had exposed the false claims of Carmona, Freire and others. This naturally made him exceedingly careful not to make a similar slip himself. Had he found the bacillus in every case of yellow fever which he had studied, he might have made bold to announce it as such. Had he even found it in eighty or ninety per cent. it might have given him courage to announce the great probability of its being the long-sought-for microbe. As he only found it in about half the fatal cases then examined, he could not very well announce it as the cause of every case. In his Moscow paper he now says that if he had had the results announced by Sanarelli on dogs, monkeys, and men, he would not have hesitated as he did. He further adds "If these results (of Sanarelli's) are confirmed by other investigators, this bacillus must be accepted as the veritable germ of yellow fever." This statement evidently implies that he has little or no doubt of the identity of Bacillus X and Bacillus icteroides, and yet there are grave difficulties in the way of our reasonably accepting this conclusion. The first, according to Sternberg, is found in the intestines, while the second, Sanarelli tells us, is never found there. Sternberg claims that his bacillus works its way from the intestines into the tissues, while Sanarelli holds that his develops in the inner organs and in the blood. Dr. Sternberg made experiments on two dogs, a number of guinea-pigs and some rabbits, with cultures of Bacillus X, on his return to Baltimore from Havana. In these experiments he had no such results as those described by Sanarelli. The dogs were made quite sick and their temperatures were raised by the injections, but they soon rallied, and were apparently well in a couple of days. On rabbits the injections had a rapidly fatal effect. Sanarelli tells us that the animals he inoculated all showed the marked fatty degeneration peculiar to bad cases of yellow fever, but Sternberg only had one case in which any such lesion appeared. In one of his rabbits that was excessively fat, he found the liver loaded with fat, but he put no stress on the matter from an etiological view. If, as Sanarelli says, the Bacillus icteroides exists in the blood and in the tissues, the inoculation of blood or of liver-tissue into rabbits or guinea-pigs should prove fatal to such susceptible animals. Sternberg performed a large number of such experiments, which he reported in 1890, and only where the germ of rabbit septicemia was present were the results fatal. That yellow fever is arrested by freezing weather, and the Bacillus X is not destroyed by exposure to a freezing mixture of ice and salt for two hours, would also seem to tell against the identity of the bacilli. Possible explanations of nearly all these objections can be given, but the best evidence of the identity will come from future experiments. Already has work been begun in the Army Medical Museum for the purpose of ascertaining whether or not the two bacilli have the same pathogenic properties. As soon as these results appear our readers will be informed concerning them.

AMONG THE EDITORS

THE INFLUENCE OF CYCLING ON WOMAN'S DRESS

If the bicycle has done no other good, the thanks of the community at large are due to it for bringing about at least one useful reform. The glad news has come from Paris, whence are issued the decrees of woman's world of fashion, that it has been decided, after mature deliberation, to increase the size of the waist of a society woman by three or four inches. The bicycle is responsible for this wonderful innovation. In Paris, more than in any other city, the cycling rage has taken hold among women. The truth was soon discovered that the exercise required more freedom of respiration and movement than the corset permitted. For a considerable time the discomfort induced by the tight corset was heroically endured, but little by little more latitude was allowed to the suffering organs, and eventually the ladies became convinced that this liberty, while conducing greatly to their comfort in no way detracted from their appearance. The women of Paris are much to be commended for the common sense they have shown in this respect, and without a doubt their example will soon be followed by ladies in all parts of the world. Ladies' dress has always been a drawback to their healthy enjoyment of cycling, and of all parts of their attire the tight corset has been the chief offender against the laws of hygiene and comfort. It may be said that at last their dress is becoming really rational. —*Pediatrics.*

A DEPENDENT PROFESSION

We learn from the report of the bacteriological department of Philadelphia that there is a tendency, on the part of physicians sending in culture-tubes from suspected cases of diphtheria, to rely more and more upon the diagnosis of the department. This certainly suggests the unpleasant idea that, as the department by this means reaches out for the diagnosis of more diseases, the tendency to rely on it will increase, and diagnosis will become the prerogative of a select few salaried by the city or State or nation. Treatment, too, will fall in rank behind and wait the mandate of the same power. National institutes will flow with serum of various kinds for the healing of the nation. Thus by a fine union of medicine and the State the business of the doctor will be swept away. In this, medicine but follows other things, and the future will see it thoroughly transformed into an autocracy on the German plan with civic and national authority back of it. The drudgery of the work outside the laboratories will be done by the ignoble herd for nothing, but the aristocracy of medicine will scan cultures and slides, and issue their edicts of quarantine, removal, isolation, what they will. It is growing hard now to be sick; it will then be deadly. Man will hold his life, his freedom, his business, only at the whim of the medical despot. And why are we coming to this? Why do physicians "rely" more and more on the diagnosis given by the Board of Health? The answer is obvious; because they cannot well do otherwise. If they make a negative diagnosis the Board may upset it, right or wrong, and discredit the doctor in the eyes of his patient; or, just as likely, if he diagnose diphtheria, it chooses to find no bacillus, though sequelæ follow just the same. It is wonderful always how the helpless agree and depend upon despotic and arbitrary power. Now, we might endure without flinching the early rays of this coming dawn that threaten the medical world, were we quite sure the sun was rising and not a fire-ball. If only the diagnosis of bacteriologists could be implicitly trusted! But, on the contrary, there is more than a growing suspicion that they have not yet discovered the true road—*International Med. Mag.*

QUACKS AND GULLS

The following story, which I take from a French newspaper, well illustrates that particular twist in the brain of "this foolish-compounded clay, man," which leads so many otherwise fairly intelligent folks to place more reliance on quacks than on qualified medical practitioners. In a fashionable quarter of Paris one "Alexis" does a roaring trade as a bone-setter and herbalist. To him one fine day there came a Commissioner of Police with an invitation to follow him to his office. The quack took the matter quite coolly, and, while preparing to obey the summons of the law, said to his servant, "Don't send anyone away; I shall be back in a few minutes." The representative of the civil power hinted with a significant smile that his return might possibly be a little delayed. On arriving at the police office, "Alexis" asked the Commissioner for a moment's private interview. This, after some demur, was granted. When they were alone, "Alexis" took from his pocket a diploma of Doctor of Medicine of the most authentic character, at the same time begging the astonished Commissioner not to betray his secret, on the ground that he would lose his practice if it were known that he was a regularly qualified doctor. He added by way of explanation that he had tried practice in the orthodox way and had nearly starved behind his brass plate. An inspiration came to him to start as a quack. He removed his plate, dropped his surname, gave himself out for a bone-setter —and he might have added, pointing to his rooms crowded with patients. "*Si monumentum quaeris, circumspice!*" This interesting story carries its truth on its face. I do not know whether "Alexis," doctor though he be, has much knowledge of medicine, but he evidently knows mankind.—*The Practitioner.*

CASTRATION OF THE FEEBLE-MINDED

One of our New York contemporaries is going into spasms of horror and virtue over a bill recently introduced in the Michigan legislature with a view to castration of epileptics and other feeble-minded individuals —a measure intended to limit the reproduction of these defects. The same bill also provides for a like penalty for rapists and habitual criminals—those of the latter who have served three or more terms in prison; criminal assault is also sought to be brought within the workings of the proposed law.

One contemporary suggests it would be cheaper and more effective if the penalty of decapitation was enacted. This is undoubtedly true. But unfortunately the mawkish sentiment which pervades modern civilization, that provides for the criminal oftentimes better quarters, better clothing, and better food than he has ever been accustomed to, will not tolerate anything to the betterment of the public at large or that in any way trenches upon a popular fetich. And when we read some of the lucubrations that have found place in alleged medical and scientific journals, it is readily realized in many individual instances "Othello's occupation"would speedily be "gone" if the reproduction of idiots and feeble-minded was to be limited. For all the boasted enlightenment of the nineteenth century, the old Phallic fetich still obtains, even though sedulously disguised; and some of our great philanthropists would rather see the entire country taxed to the utmost limit to support a constantly increasing population made up of criminals, insane, feeble-minded, idiots, epileptics, *et al.*, than sanction any act that will tend to free society from one of its most onerous burdens. These same individuals would have no hesitancy in advocating the removal of a cancerous breast, of a sarcoma, or any other portion of the anatomy which had become morbid and threatening to the health and life of the individual or to the weal of the public; but when even greater ills accrue to the individual and to the public as a result of animal sexuality, the cry of "hands off" is immediately raised and these pious gentry roll up their eyes in well-simulated horror.—*Medical Age.*

CYCLING FEVER

The effects of over-exertion in producing various disturbances of a more or less grave character are well known, and not unfrequently these disturbances culminate in permanent structural damage. They are not peculiar to cycling, but during the last year or two cycling has predominated to such an extent over all other forms of popular sport that their pathology has become the pathology of cycling. We do not allude to the accidents entailing a solution of continuity of the skin and bones, but to the functional diseases due to over-pressure. There are two special forms of disease, one due to traveling at a pace in excess of the rider's circulatory capacity, and another consequent upon cycling distances beyond his physical standard. The first is productive of circulatory failure allied to, and often culminating in syncope, while the other induces a condition strictly comparable with what is generally known as neurasthenia or nervous exhaustion. The diagnosis of the first variety is easy, and examples are numerous. The rider suddenly gets out of breath and falls panting from the saddle, his face becomes pallid, or even livid, and a cold sweat bathes the skin. In minor cases, he recovers after a brief rest, but he feels instinctively that he must cut his journey short as best he may. In graver cases the circulation fails to re-establish itself for some time, and even after recovery the heart may continue to beat irregularly, and at an abnormally rapid rate, for weeks, or even months. This is the origin of many cases of tachycardia or rapid heart, which are now recognized as constituting a distinct category of heart-cases. The condition engendered by the over-exertion, consequent upon too long a ride, is more insidious. The rider is often deceived by the feeling of buoyancy and well-being which is experienced on arriving at his destination. His appetite, it is true, is not what one would expect after such a journey, and his sleep is disturbed, when, indeed, the night is not given up to an aggressive form of insomnia, characterized by spasmodic movements of the limbs and waking nightmares. On the following day the tongue is dirty, and the physical fatigue well-marked, but one of the most striking and uncomfortable symptoms is what we may well call "audible heart"—that is to say, the sufferer feels every pulsation, and he is uncomfortably conscious of the fact that he has a heart, the ideal of health being a blissful unconsciousness of the fact that there are such things as internal organs. A single day's ride may be recovered from if the rider is under no constraint to do otherwise than afford time and opportunity to nature to make good the overdraught on the vitality of the organism. It is after several consecutive days of such excess that signs of impending nervous breakdown make their appearance. The digestion fails and there is almost complete want of appetite, sleep is disturbed, and even moderate exertion becomes a burden. The particular form of the breakdown depends, of course, upon the idiosyncrasy of the individual.—*Medical Press.*

"WHERE IGNORANCE IS BLISS IT IS FOLLY TO BE WISE"

We believe ignorance and superstition haunt the chair of our State executive, and, like Bancho's ghost, they will not down. Circumstantial evidence of these harbingers of evil about this chair is all that we have on which to base our statement. But then this statement is so marked that even a jury made up of the last Missouri legislature would have to accept it as conclusive. Think of a Governor who poses as a man of intelligence, playing with the fire of quackery; think of a Governor who is supposed to be a man of judgment (being a banker) bowing to the will of such men as Still, fossils of prehistoric superstition, whose practice of the. power-born-of-God folly was used by the clowns of ancient Egypt, and yet Governor Stephens thinks it a new and original treatment worthy of State sanction. Think of a Governor when face to face with his critics regarding his Fulton episode, like a slave-driver, threatens to put all State institutions into the hands of his dearly beloved homeopaths. Such a threat reminds us of some of Tom Sawyer's experiences, and probably is just as boyish.

But we must not be too harsh in our criticism, for where ignorance is bliss it is folly to preach wisdom. We can never expect water to rise higher than the plane of its source, and we cannot expect the acts of a Governor to rise higher than the plane of his intellectuality. We are forced to measure a Governor by his acts, as this is our only available measure. So measured, we find Missouri's Governor weighed and found wanting. How much he is wanting can only be ascertained by comparing with another Governor, and we will take the Governor of Illinois, who lately has shown the medical profession what a blessing it is to have an executive who is intelligent and broad-minded, so that he can forestall the action of unwise legislators, and thus prevent the body politic from suffering at the hands of quacks, tricksters, and impostors. Contrast Tanner of Illinois with Stephens of Missouri, and you see at a glance, as we would say in medicine, "the differential signs" of progress and poverty. Tanner, alive to the needs and good of his State—Stephens, a selfish, unstable, ambitious, inane man, alive to what may accrue to Stephens, but cares little for the State he represents. In the train of such a man's acts comes poverty to the State.—*Medical Fortnightly.*

A NEEDED REFORM

It is encouraging to learn that there is now before the Legislature of Ohio a bill forbidding the general distribution of pamphlets and circulars which contain a description of the symptoms or cause of any disease, while advertising some nostrum.

The effect of reading such statements upon the mind of the patient is well known. At a time when the bodily health is impaired, and the mental acumen below par, the mind is incapable of judging of the truth or falsity of the statements made, and an impression thus gained may prove an important factor in the successful conduct of the case.

The perfectly absurd statements relative to the habit of self-abuse which are found in the hundreds of pamphlets which reach young men and boys, do not diminish the evil, but they serve the ends of the impostor who has a "cure" to sell, and the second state of these victims is often worse than the first, an actual nervous disorder exchanged for a disgusting habit.

The thousand and one nostrums which "cure catarrh" are reliant upon the fear of impending consumption, insanity, and death so graphically depicted in their advertisements as consequent upon the continual hawking and spitting, the dropping of mucus into the throat, etc., etc., for their sale and use, rather than upon any inherent virtue.

The picture of Bright's disease and the list of prominent men who have died from its ravages, with a magnification of trivial symptoms incident to many trifling ailments, has made an invalid of scores of patients who fear the name of the disease and dread its onset.

This act proposed in Ohio is a worthy one and no other argument in its favor is needed than the admission of the untoward effect of reading such rubbish upon our patients.

Let pharmaceutical ingenuity and business enterprise be directed toward some other object than the health of the community.—*Atlantic Med. Weekly.*

THE REFINING INFLUENCE OF THE ANTI-VIVISECTION AGITATION

Last year, the Marine-Hospital Service was called upon to test the value of the cobra-venom as a remedy against cholera, it being claimed to be an infallible remedy long used among the mountain tribes of India. Surgeon Kinyoun was detailed to make some experiment with it on animals, and, this fact being mentioned in the daily papers, he began to receive anonymous letters, two of which he publishes in the report of the supervising Surgeon-General for the year 1896. We quote one of them. They are enough alike to have come from the same source, and we do not like to believe that there are many who would indulge in such malevolence. They make interesting reading, in connection with the familiar charge that experiments upon the lower animals tend to destroy the sympathy and benevolence of the experimenter.

One is naturally led to wonder what is the connection between the moral and intellectual condition of the writer of the following communication and the antivivisection agitation. Is it one of cause and effect? If so, which is cause, and which is effect? Does the persistent indulgence in misrepresentation and vilification develop this form of moral monstrosity? Or, does this peculiar form of monstrosity find the antivivisection movement an attractive and congenial opportunity for the display of its characteristics?

"You vile, merciless, rascally fiend! I judge from your name, you are a nasty Frenchman, with no heart and without a God. If you think you will be permitted to set up a place of torture in this country for poor animals, you are vastly mistaken. You will have to betake yourself to the vile and godless country from which you came, or to the hell to which you are destined; and if you wish to indulge in such fiendish performances when you reach the latter place, which I hope you will soon, unless you repent, you will have an opportunity, with kindred fiends, of torturing yourself through the endless ages of eternity. I am a woman, who despises brutes and all brutal actions."

It might be hard for a "vivisectionist" to believe in the genuineness of such letters, to believe that any man or woman would freely indulge such vindictive feeling toward any living being, even a fellow man; but, unhappily, expressions of similar malignity have so often found their way into print, over the signatures of antivivisection agitators, that the wish to intimidate or to annoy an investigator seems the most plausible explanation of such anonymous attacks. —*Philadelphia Polyclinic.*

ANTI-VACCINATION CRANKS

The anti-vaccination cranks' society gave a dinner in New York to celebrate the failure of the Illinois Legislature to make the vaccination of school-children by health-boards compulsory. The *Record*, of June 26, says the victory only means future disaster; that it is the fool laughing in the face of danger, and to call it a victory is like hurrahing for hell, and closes by saying the skull and cross-bones are the proper insignia for Illinois if she is to be the banner State for this movement. It was from Chicago that a Pullman-car porter took refuge with smallpox, diagnosed as chickenpox, in a Montreal hospital, causing a thousand deaths, mainly of unvaccinated children, before the winter closed in that city. But still the cranks assemble and sing to the tune of "Rock of Ages," "Vaccination, skin and bones, sits upon his royal throne," and think they are doing the race of men the service of the gods. The *Record* is satisfied of the potency of vaccination, though masterly conservative as to the use of antitoxin. —*Indiana Medical Journal.*

SELECTED PAPER

PRINCIPLES UNDERLYING THE SERUM DIAGNOSIS OF TYPHOID FEVER AND THE METHODS OF ITS APPLICATION *

By WILLIAM H. WELCH, M.D.,
Professor of Pathology, Johns Hopkins University, Baltimore, Md.

BEFORE the introduction of the Widal method of diagnosis the discovery and subsequent studies of the typhoid bacillus had been comparatively barren of results available to the general practitioner of medicine. In this respect the typhoid bacillus afforded a marked contrast to many other pathogenic micro-organisms, notably the tubercle bacillus, the diphtheria bacillus, and the malarial parasite.

For various reasons improved methods of diagnosis of typhoid fever are most welcome to the practitioner. Inasmuch as the prevalence of this disease is a just reproach to the sanitary conditions of a locality, there has often been a readily explicable, if not creditable, reluctance on the part of some physicians, especially in public institutions, country towns, and summer resorts, to make the diagnosis of typhoid fever even in clear cases. Moreover, notwithstanding all that has been written on the subject, knowledge of the frequent deviations of typhoid fever from the classical type, amounting sometimes to entire absence of all features of this type, can hardly be said to have become sufficiently common property of the medical profession in this country. The differential diagnosis of typhoid fever from certain other diseases, such as acute miliary tuberculosis, tuberculous peritonitis, and meningitis, acute ulcerative endocarditis, and various other septic affections, may, for a time at least, be most difficult or impossible, even to skilled diagnosticians. In children the disease is prone to anomalous manifestations. Since the discovery of the malarial parasite there is no longer any excuse for confounding typhoid and malarial fevers. A method of positive diagnosis of typhoid fever will elucidate the much-disputed nature of many short and mild febrile diseases and of certain fevers of warm climates, as in the southern part of this country.

Before the introduction of serum diagnosis, numerous attempts had been made to utilize the presence of the typhoid bacillus for purpose of diagnosis. One can obtain with considerable regularity cultures of the typhoid bacillus by hypodermic puncture of the spleen in typhoid patients; but this procedure is not wholly without danger. Anyone who has seen at autopsy a swollen, soft typhoid spleen with its capsule distended to the utmost and ready to burst the moment it is lifted from the body, would certainly hesitate to insert even a hypodermic needle into such a spleen during life. Instances are on record in which such puncture of the spleen has given rise to severe intraperitoneal hemorrhage. Cultures from roseola-spots, suggested by Neuhauss in 1886, yield uncertain results. Cultures from the blood give positive results in some cases, especially if large amounts be used. Cultures from typhoid stools reveal the presence of the specific bacillus in many cases if the examination be made with sufficient patience and care. The introduction of the Elsner and of the Capaldi nutritive media marks a distinct advance in this method. None of these procedures, however, in their present form affords simple and ready methods of diagnosis in the routine of hospital and private practice.

History.—The Widal method of diagnosis is based on the application of scientific discoveries made before Widal's first publication, June 26, 1896. As a controversy for priority, attended with no little bitterness, has arisen, it may be well to state the main historic facts. Like so many other bacteriologic discoveries of practical utility, this one is the outcome of investigations concerning immunity.

In 1889, Charrin and Roger noticed that the Bacillus pyocyaneus grows in the form of clumps in the undiluted serum of animals rendered immune from this bacillus, whereas in normal serum it grows with diffuse clouding of the medium. This is the first observation of the property of immune

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* Presented in opening the discussion on Serum Diagnosis in the Section on Practice of Medicine, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897, and published in the *Journal of the American Medical Association*, August 14, 1897.

serum to cause agglomeration of specific bacteria.

In 1891, Metchnikoff observed the same phenomenon together with immobilization of the bacteria in cultures of the Vibrio Metchnikovi, and also clumping of the pneumococcus, in their immune sera and he said: "This fact, presenting a general importance, should be investigated more fully." He did not, however, pursue the investigation, and as he failed to find the same behavior of the hog-cholera bacillus[1] in its immune serum, he seems to have abandoned the idea first expressed as to the general importance of the phenomenon.

In 1893, Issaeff, in the Pasteur Institute, and in 1895, Washbourn, confirmed Metchnikoff's observation as to the pneumococcus, and in 1894 Issaeff and Ivanoff, in Koch's Institute, made the same observation regarding the vibrio of Ivanoff.

In 1894, Pfeiffer, in conjunction with Issaeff, published his important studies on immunity from Asiatic cholera, in which he showed that cholera spirilla introduced into the peritoneal cavity of immunized guinea-pigs, or introduced together with immune serum into the peritoneal cavity of normal guinea-pigs, quickly lose their motility and break up into small granules. This behavior in the animal body, known as the "Pfeiffer phenomenon," and demonstrated in 1896 by Pfeiffer and Kolle also for typhoid infection, became the subject of investigation by others, which led to the recognition of the importance and general bearings of the agglutinative reaction of specific sera. The Pfeiffer phenomenon is distinct from the agglutinative reaction upon which the method of serum diagnosis to be here considered is based, and Pfeiffer himself cannot be credited with a clear recognition of the diagnostic importance of the latter reaction before it was made manifest by the work of others. He, however, directed attention to the diagnostic employment of serum with his reaction, and his discoveries formed the basis for the later work on the agglutinative reaction and, therefore, they occupy an important position in the history of serum diagnosis.

In 1895, Bordet, in studying the conditions of production of the Pfeiffer phenomenon outside of the animal body, noted that if a small quantity of immune serum be added to a suspension in salt solution or bouillon of cholera spirilla these lose their motility and become agglomerated. The significance of Bordet's observation is that he was the first to dilute the serum. His interest, however, was chiefly in the determination of the conditions causing the disintegration of the spirilla by cholera-serum, and it cannot be said that, at this time, Bordet had a clear perception of the importance and general significance of the agglutinative reaction.

January 3, 1896, Dunham presented to the Royal Society a paper giving the results of investigations in Gruber's laboratory in Vienna. This communication embodies the first thorough and systematic study of the agglutinative and immobilizing properties of immune serum outside of the animal body. In this and the rapidly following papers of Gruber and Durham the real importance and general characters of this reaction with immune serum were for the first time made clear. The macroscopic and the microscopic tests, the importance of dilutions, quantitative estimations of agglutinative power, the value of the test for the differentiation of bacterial species and for the determination of a previous attack of cholera or typhoid fever, and many other details were described.

It seems but a small step to determine whether a reaction which had been demonstrated to characterize the serum of animals and human beings which have recovered from an injection may not also be present during the period of infection, but upon this step depended the applicability of the reaction as a method of clinical diagnosis. It was Widal who took it and thereby made available for the diagnosis of an infection a reaction which had previously been thoroughly worked out by Gruber and his collaborators so far as immune serum is concerned.[2] Widal's first communication was presented to the Société Médicale des Hôpitaux June 26, 1896. This paper has been followed by numerous important contributions by Widal and others to the same subject.[3]

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[1] As a matter of fact, the hog-cholera bacillus is agglutinated and immobilized by immune hog-cholera serum, as has been shown by Dawson (*New York Med. Journal*, Feb. 20, 1897). This is an additional proof, if any were needed, of the fact repeatedly insisted upon by the writer and others in this country, that Metchnikoff's so-called hog-cholera bacillus is not the genuine hog-cholera bacillus discovered and described by Theobald Smith (Welch and Clement, Proceedings of the 30th Annual Convention of the U. S. Veter. Med. Assoc. and 1st Veterinary Congress of America, October, 1893).

Nature of the Agglutinative Property and Reaction.—As the result of infection with many bacteria or of intoxication with their products, the blood, even when highly diluted, acquires the property of causing loss of motility and clumping together of the specific bacteria concerned in the infection or intoxication. The clumping is called by Gruber agglutination, and is attributed by him to the presence of substances to which he has given the name agglutinins. He supposes that these agglutinins make the gelatinous capsules of the bacteria swell up and thereby stick the bacteria together. Although there is no proof of this theory, the names "agglutination," to designate the phenomenon, and "agglutinins," for the supposed substances causing it, have been widely adopted.

In the case of motile living bacteria two phenomena characterize the complete reaction, paralysis or immobilization of the bacteria and clumping. Usually these two phenomena go hand in hand, but sometimes there is loss of motility with little clumping or clumping without much cessation of motion, so that the opinion has been expressed that the paralyzing and the agglutinative substances are not identical. The more common deviation from the usual course of the reaction is the occurrence of clumping, with partial preservation of motility.

The agglutinative serum-reaction appears to be of wide, although not universal, application, both for motile and non-motile pathogenic bacteria, having been demonstrated for typhoid, Asiatic cholera, pneumococcus-infection, tetanus, pyocyaneus disease, glanders, hog-cholera, Malta fever, colon-infection, proteus-infection, psittacosis, and several other infections.

The change in the blood upon which the reaction depends is doubtless a specific one in the same sense as are the antitoxic, lysogenic, and other specific alterations caused by the action of definite bacteria or their products. It is upon this specificity that the diagnostic value of the reaction is based. It is true that, as in the case of the antitoxic, lysogenic and other protective modifications of the fluids of the body, the normal blood may possess in some degree the same property, so that the specific character of the change may not be apparent without resorting to considerable dilution of the blood or serum. Normal blood may agglutinate, to some degree, not only the typhoid bacillus, but various other bacteria. The specificity of this change resulting from infection with a given micro-organism is made apparent by increase of the agglutinative power of the serum only for that micro-oganism, or to some extent also for closely allied micro-organisms. The increase of reaction in some degree with closely allied bacteria, does not militate against the specificity of the change, for it is only an expression of the natural affinities between varieties and traces of organisms, as between the typhoid bacillus and the bacillus of psittacosis, or between the cholera spirillum and certain other spirilla, or between the varieties of proteus bacilli or of colon bacilli. The development of the specific agglutinative properties of the blood in typhoid fever affords additonal proof, if any were needed, that the Bacillus typhosus is the specific cause of this disease.

The blood acquires the specific agglutinative power at a variable period, usually within a few days, after the entrance of the pathogenic micro-organism or its products. This power tends to increase, but with much irregularity, during the course of the infection, and gradually to diminish and finally to disappear weeks, months, or it may be years after recovery from the infection. Widal lays much emphasis on the reaction being one of infection and not of immunity. Still it is to be noted that by following procedures for raising experimental immunity to great heights, there may be a corresponding rise of agglutinative power, whereby degrees of this power may be attained which are entirely unknown during natural infections. Thus, Widal, by successive inoculations of an ass, has secured typhoid serum with an agglutinative strength of 1 to 43000, and Salimbeni has obtained, experimentally, cholera-serum agglutinating in a dilution of 1 to 50000. Gruber speaks even of immune sera which agglutinated distinctly in a dilution of 1 to 500000. There is, however, no necessary correspondence between the height of immunity and that of agglutination; especially may the latter lessen or disappear when the former is preserved. In the light of the experimental results, and for other reasons, it seems to me somewhat misleading to designate the reaction as merely one of the period of infection.

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[2] It appears that Grünebaum, working in Gruber's laboratory. had before Widal's first publication determined the agglutinative property of the blood-serum during the period of typhoid infection, but the results of his investigations were not published until after several papers by Widal and others had appeared.

[3] A summary of their own work on serum diagnosis, as well as that of others, with references to literature, is presented in a recent elaborate paper by Widal and Sicard in the *Annales de l'Institut Pasteur*, 1897, No. 5.

We are not informed as to the nature of the relationship between the agglutinative and the protective properties of the blood. Gruber has based a new theory of immunity on the agglutinative reaction, but this theory is opposed by many facts and cannot be accepted. The agglutinative property has been shown to be distinct from the bactericidal, lysogenic, antitoxic, and other known protective properties of the blood. At present we have no satisfactory evidence that the agglutinative reaction is concerned in any of the defensive mechanisms of the body. According to Salimbeni, whose results, however, are not in entire accord with those of Durham, agglutination of bacteria does not take place within the animal body, although it has been demonstrated that the living blood-plasma possesses the agglutinative property.

We do not know the origin or nature of the so-called specific agglutinating substance, save that in some way it results from the activities of bacteria or their products within the living body. Gruber believes that it is derived from the bodies of the bacteria through the agency of the cells. Bordet considers that it is secreted by leucocytes. Experiments of Widal and Sicard, and of Achard and Bensaude, indicate that it is not secreted by leucocytes outside of the living body, but there is nothing which shows that it may not be formed by cells within the body.

The agglutinative substance is generally believed to be a proteid, as it is precipitated from blood-plasma with fibrinogen and globulin, and from milk with lacto-globulin and casein, but it is possible that it is simply mechanically retained by these albuminous precipitates. In typhoid fever it may be absent from albuminous urine and may be present in urine which gives no reaction for albumin (Widal). It behaves like an albuminous substance as regards filtration and dialysis.

The question whether it is strictly proper to speak of agglutinative, bacteriolytic, antitoxic substances in the blood is a legitimate one. They have never been isolated as chemical substances. Behring has expressed the opinion that isolation of antitoxin will never be accomplished, for, in his opinion, it is a force pertaining to highly organized material, and there is no more possibility of separating it as a substance than of isolating the magnetic force from an iron magnet. In all probability these various properties, agglutinative, bacteriolytic, antitoxic, belong to the same general category, and we may look upon the agglutinative property also as a physical one which proteid substance may acquire as the result of the activities of bacteria or their products, and no more separable in the form of a chemical substance than is electricity.

The agglutinative property is quite resistant to injurious agencies. It survives desiccation of the blood or serum for months, and may persist for months in blood-serum, even when this is seriously contaminated with micro-organisms. It is not destroyed by sunlight, unless overheated. It is weakened by prolonged heating at 60° C., and is annulled by heating for ten minutes at from 75 to 80° C.

The agglutinative property in typhoid fever is present in a maximum amount in the blood, being somewhat greater in the blood-plasma than in the blood-serum. It is found in blister-serum in essentially the same strength as in blood-serum. In other fluids, as the pleural, peritoneal, pericardial, inflammatory and edematous, it is in smaller and variable amount. In milk and colostrum it is present in marked degree. It is weak and inconstant in the urine, bile, and aqueous humor. It has been found in tears naturally secreted, but is said to be absent from those provoked by irritants. It may be present in typhoid stools (Block). It has not been found in the cerebrospinal fluid or the fluid in the seminal vesicles. It has not been positively determined whether the distribution of the agglutinative property in the various humors of the body outside of the blood, can be explained wholly by processes of filtration and diffusion from the blood-plasma, although these are doubtless the main factors.

The agglutinative reaction may or may not be obtained with the blood of a fetus or new-born infant of a mother with typhoid fever. Chambrelent and Saint-Philippe consider that the presence or absence of the reaction in the fetus depends on whether or not the typhoid bacilli break through the placental barrier from mother to fetus and cause infection of the latter. Further investigations are needed to determine this point and thus to decide whether the agglutinative property is passively or actively acquired by the fetus. For it has been shown that this property, like immunity, not only may be actively acquired as the result of infection or intoxication, but may be passively transmitted by injection of agglutinative serum, the reaction in the latter case appearing promptly without symptoms of infection, being relatively slight, and disappearing after a short time.

Courmont thinks that the development of typhoid bacilli in a fluid robs it of agglutinative power. Thus he has found that the vegetation of the bacilli in typhoid serum deprives it in a few days, of the agglutinative property, and that blood obtained, post-mortem, from the spleen, liver, and mesenteric glands, organs in which the typhoid bacilli are especially abundant, is poorer in agglutinative power than that from other parts. Ménétrier found in a case of typhoid fever that the pleural exudate, which usually gives the agglutinative reaction, did not do so, and that it contained typhoid bacilli in large number. It has been suggested that these observations may shed light on the exceptional cases of typhoid fever with absence of the specific serum-reaction. Flexner has shown that, occasionally, the typhoid bacilli develop in the blood in such large numbers as to produce a genuine typhoid septicemia. Still these observations, interesting as they are and deserving further investigation, must be interpreted with caution, for Widal has found a purulent exudate from an immunized ass, swarming with typhoid bacilli, to present, even after fifteen months' preservation, an agglutinative power of 1 to 13000, the power of the blood-serum of the same animal kept for the same length of time being 1 to 14000.

We have no satisfactory explanation of the production of the phenomenon of agglutination by specific serum. Gruber's explanation already mentioned has received no confirmation. The phenomenon occurs with non-motile as well as with motile bacteria, with dead as well as with living organisms. Typhoid bacilli killed by formol in weak solution, or by heating for five minutes at a temperature of 56° C., are about as sensitive to the reaction as are living bacteria, and retain their agglutinability for a long period (Widal). The phenomenon, therefore, is a physical rather than a vital one, although probably dependent in some way on the protoplasmic constitution of the bacterial cell. Salimbeni, as has been stated, found that the phenomenon does not occur in the living body of immunized animals.

He also found that the presence of atmospheric air greatly favors the reaction, it requiring much more concentrated serum and a longer time to bring about the phenomenon in a vacuum than when the fluid is exposed to the air. Widal has shown that other physical conditions, particularly contact with objects, such as the surface of slide or cover-glass, and partial evaporation, favor the production of the reaction.

Agglutinative serum is often likewise bactericidal and bacteriolytic, but the agglutinative reaction is independent of the bactericidal and is manifest with dilutions of the serum which annul the bactericidal power. In such dilutions the agglutinated and immobilized bacteria are not altered morphologically, or in staining properties, or in pathogenic power, or in any other way, so far as has been determined. Whether the temporary inhibition of bacterial growth in agglutinative serum is dependent on the agglutinative or on some other property of the serum is not known.

Methods of Making the Serum-test for Typhoid Fever.—Widal, in his first communication, described both the slow or macroscopic and the quick or microscopic methods. For each of these he recommended a dilution of one part of blood or blood-serum to ten parts of the fluid containing the culture. The macroscopic method consists in adding the blood or serum to be tested either to a young bouillon culture of the typhoid bacillus or to sterile bouillon which is then at once inoculated with the bacillus. In the former case the reaction with typhoid serum appears usually within two or three hours and consists in clarification of the previously turbid fluid, and the formation of a clumpy sediment composed of accumulated bacilli. In the latter case the tube is placed in the incubator, and within fifteen hours the reaction is manifested by growth of the bacilli in the form of a sediment at the bottom of the tube, the fluid remaining nearly or quite clear.

The microscopic test, to which Widal gave the preference, is made by mixing the blood or serum with a young bouillon-culture or with a suspension in bouillon or salt solution of a fresh growth of the typhoid bacillus and examining a drop or two of the mixture at once under the microscope. With a dilution of 1 to 10 this microscopic typhoid reaction appears, as a rule, immediately or within a few minutes, and is evidenced by loss of motility and by clumping of the bacilli into masses of various sizes and shapes.

Widal obtained the blood either with a sterilized hypodermic syringe from a vein of the arm, or by pricking the finger. It may also be conveniently obtained by pricking the lobule of the ear. A few drops of blood suffice for collecting the necessary amount of serum; indeed a single drop will do for the reaction. The blood may be collected in a small test-tube where, usually in a few minutes, it clots. The separation of the serum may be facilitated by passing a sterilized platinum needle between the glass and the clot, or by the centrifuge, or the blood may be collected and allowed to clot in a slanted tube, which is then placed upright, the separated serum trickling to the bottom.

In a communication made July 31, 1896, Widal said that results equaling those with blood-serum can be obtained with blister-serum, and this procedure has been employed with much satisfaction by the Health Department of New York City.

At the same time Widal called attention to the preservation of the agglutinative property in dried blood and serum. Wyatt Johnston deserves the credit of developing the test with dried blood and for introducing the method of serum diagnosis into the work of the municipal laboratories. The dried-blood method, which has been used far more extensively in Canada and this country than in Europe, possesses certain manifest advantages, especially ease of collection, freedom from subsequent contamination and readiness of transportation, and it has given excellent results in the hands of Johnston and others. The principal objection, and this is of considerable importance when precise results are desired, is the difficulty of obtaining accurate quantitative dilutions with the use of dried blood.

Several observers, including Breuer, Haedke, Du Mesnil de Rochemont, Scheffer, have expressed the opinion that the macroscopic method is more trustworthy than the microscope. This I believe to be an error and to be due to unfamiliarity with all of the conditions essential for the accurate employment of the microscopic test. The latter is more delicate, prompt and precise than the macroscopic reaction, and requires less care in respect to accidental contamination.

A year's experience with the method of serum diagnosis of typhoid fever has led to a general consensus of opinion as to its great value. It has, however, been recognized that certain precautions in the application of the test are necessary in order to avoid mistakes. Numerous modifications of the original methods have been suggested, the most important relating to quantitative determinations. In considering the value and practical utility of such modifications of the test, several points should be borne in mind. Practically all of the methods recommended by competent investigators have given good results in the great majority of cases. For linical purposes it is desirable that neither the method of obtaining and collecting the blood nor that of conducting the test should be more difficult and complicated than is absolutely necessary. Methods which may be essential for exact scientific work, where every possible source of fallacy is to be avoided, may not be the best for the routine examinations of a clinical or a municipal laboratory. Where absolute accuracy is not obtainable it is upon the whole better that the method should err on the side of now and then including a non-typhoid case than in excluding cases of genuine typhoid fever. With due allowance for such considerations as these, we must welcome all efforts to give greater precision to the methods of serum diagnosis and to determine the capabilities of these methods and their possible sources of error. In exact quantitative work with the serum-test the most important points to be considered are the characters of the culture, the dilution of the serum, the time-limits, the criteria of the reaction and certain physical conditions influencing the reaction.

Characters of the Culture.—There has been considerable difference of opinion as to whether cultures of the typhoid bacillus obtained from different sources are equally sensitive to the agglutinative reaction. Widal, Durham, Stern, and C. Fraenkel, who have all had large experience with different cultures, have found only unimportant and inconstant differences in susceptibility to the reaction. The fact determined by Pfeiffer that the less virulent the culture, the greater the sensitiveness to the lysogenic reaction (Pfeiffer's phenomenon), seems to have been considered by many without sufficient investigation to be equally applicable to the agglutinative reaction. Kolle, without however presenting sufficient evidence, emphasizes the greater susceptibility of cultures with weakened virulence to agglutination. The most satisfactory evidence on this point is furnished by Kühnau, who made a careful comparative study of the behavior with the serum-test of a non-virulent and a virulent typhoid culture, and found the former to react much more intensely with normal and typhoid sera. He, therefore, lays stress on consideration of the virulence of the culture in quantitative work with the serum-test. In view of the conflict of opinion further investigations upon this question are needed.

It cannot be doubted that several observers have had to do with typhoid cultures which presented distinct differences in susceptibility to the agglutinative reaction. Especially worthy of consideration, although not wholly in accordance with some results of others, are the observations of Johnston and McTaggart, confirmed by Appel and Thornbury, that solutions of dried blood are more potent than serum in agglutinative power, although not in paralytic effect, and that such solutions from non-typhoid cases are prone to give partial (pseudo-) reactions with frequently transplanted typhoid cultures, whereas this difficulty is largely overcome by using fresh cultures planted from stock cultures a month old. Hence they strongly recommend for the dried-blood method cultures of the latter character. They, as well as other writers, likewise emphasize the importance of considering the composition of the culture-medium, which should be favorable to vigorous growth and not too strongly alkaline.

Only young cultures should be used, preferably not over twelve to eighteen hours old, if grown in the incubator. Older room-cultures can be used. Old cultures agglutinate more readily than young ones. Either bouillon-cultures or suspensions in bouillon from solid cultures may be employed. There is no difficulty in securing uniform suspensions of isolated, actively motile typhoid bacilli, especially from young cultures on dried-out agar. In every case it is of prime importance to make a control-examination of a drop from the same part of the culture or suspension which is used for the test and at the time of making the test in order to be sure that there are no pre-existing clumps, that the bacilli are actively motile, and that the culture is not contaminated.

Stern suggested that the concentration of the suspension, that is the number of bacilli in it, may be a factor meriting consideration, and Kühnau and Block have shown that this is the case. Weak suspensions are more readily agglutinated and paralyzed than stronger ones. Hence, Kühnau recommends the use of suspensions of known concentration, which can be approximately secured without much difficulty. He uses a suspension in bouillon of a fifteen-hour virulent agar-culture (grown in the incubator) containing about one hundred and twenty million bacteria in a cubic centimeter.

Dilution of the Serum.—Inasmuch as normal and non-typhoid blood may possess distinct agglutinative property, especial importance is attached to dilution of the serum, in order to avoid mistaking the normal reaction for one of typhoid fever. The opinion has been widely expressed that the dilution recommended by Widal, 1 to 10, is too low, and that a dilution should be used which is not known ever to give a reaction with non-typhoid blood. The fixation of the upper limit of such a dilution has been placed gradually higher and higher, thus by du Mesnil at 1 to 25, by Kolle 1 to 30, by Grünbaum 1 to 33, by Stern 1 to 40, by Kühnau 1 to 50. Even if it should be admitted that a reaction in non-typhoid cases with these higher dilutions is ever of such a character as might mislead an experienced observer, its occurrence is, according to most observers, very exceptional.

The question arises whether the adoption of a dilution of say 1 to 50 as the standard, would result in the exclusion of genuine typhoid cases from the diagnosis. Widal divides the typhoid cases in which he has measured the agglutinative power of the blood into five groups: *a*, those with very weak power, less than 1 to 100 (four cases); *b*, with weak power, between 1 to 100 and 1 to 200 (nine cases); *c*, with medium or average power, from 1 to 200 to 1 to 500 (eight cases); *d*, with high power, from 1 to 500 to 1 to 2000 (nine cases); and *e*, with very intense power, exceeding 1 to 5000 (three cases). In only one case did the agglutinative power not rise over 1 to 40, it being 1 to 30 on the twentieth, and 1 to 40 on the twenty-second day of the disease. In one case, Widal found the strength to be 1 to 12000. In nineteen cases measured by Stern, the agglutinating strength was never less than 1 to 50. C. Fraenkel found the average to lie between 1 to 100 and 1 to 200, sometimes reaching 1 to 5000. Out of seven cases Kühnau found two in which the serum was active only in dilutions less than 1 to 50, it being 1 to 30 in one, and 1 to 20 in the other case, but in both he made a positive diagnosis of typhoid fever in consequence of disparity of the action of the serum on the colon bacillus and the typhoid bacillus. From the observations thus far reported, although they are insufficient in number for definite conclusions, there would seem to be only small liability of failure to recognize genuine typhoid cases by resorting to dilutions of 1 to 40 or 1 to 50, but unquestionably a few cases would escape recognition, and for this reason lower dilutions should also be used, and if those between 1 to 10 and 1 to 50 give decided reaction there should be, at least, suspicion of typhoid fever.

It is not, therefore, to be recommended that one should make the test with only high dilution, such as 1 to 50. The negative result of a preliminary test with equal parts serum and culture suffices to exclude typhoid reaction. The examination, if positive, may then be made with a low dilution of the serum and for this Widal's recommendation of 1 to 10 or 1 to 15 may be well adopted. If with this dilution the microscopic reaction is complete and almost immediate, as is often the case, there is practically no risk in making a positive diagnosis. But for absolute certainty and above all in cases where the result of the reaction is not prompt, complete and unmistakable, higher dilutions should be employed; if the amount of serum permits only one such, it may be 1 to 50, but preferably intermediate dilutions should also be made, and it is desirable, if not absolutely necessary, to try dilutions higher than 1 to 50. For making the dilutions there are various simple technical procedures, which involve but little expenditure of time and labor and only small quantities of serum, as, for example, that recommended by C. Fraenkel. An accurate fixation of the upper limit of agglutinative power is often tedious and not generally necessary in diagnostic work. A positive diagnosis of typhoid fever based exclusively on the test with a low dilution, in a case which subsequently proves not to be typhoid should not be considered as in any way invalidating the results of an accurate employment of the method of serum diagnosis.

It is self-evident that the employment of varying degrees of dilution of the serum, without at the same time taking into consideration other factors which influence the reaction, has little sense and does not constitute, in itself alone, an accurate method of mensuration of agglutinative power.

Time-Limits.—As the rapidity with which the reaction appears and progresses generally varies, other things being equal, according to the agglutinative strength of the blood it is evident that methods of exact mensuration of this strength must take into consideration the length of time required for the development of the reaction after the addition of the serum. Many writers have not paid much attention to this point. Stern has proposed that a limit of two hours be adopted as an arbitrary standard for the microscopic reaction, and Widal has accepted this proposal. With this unit, an agglutinative power fixed at 1 to 500 means that 1 part of serum added to 500 parts of the fluid containing the culture, agglutinates and paralyzes the bacilli within two hours, although a higher dilution may give a decided reaction in six or eight hours. The optimum effect is, according to Stern, not attained before the lapse of six or eight hours.

By varying the time-limits, results obtained by lower dilutions may be roughly comparable with those by higher dilutions. Thus, for diagnostic purposes, a fifteen-minute time-limit for dilutions of 1 to 10 may be adopted and a two-hour time-limit for dilutions of 1 to 50 or higher, but it should be understood that in all doubtful cases quantitative determinations by varying the dilution should be employed.

Criteria of the Reaction.—Some writers have proposed to make either the cessation of motility or the clumping the essential criterion of the reaction. Thus Stern selects the clumping and Kühnau the paralysis of motion. In my judgment both phenomena enter equally into the reaction and deserve equal consideration, so that a reaction is not to be considered complete and satisfactory unless the bacilli are both clumped and rendered immobile. Partial reactions in which one or the other characteristic is lacking may warrant suspicions and lead to further examination, but they should not be made the basis of positive diagnosis. For this reason the use of killed cultures, as suggested by Widal, while it may have a limited field of application, cannot supplant the ordinary method. As already stated, the microscopic reaction is to be preferred to either of the macroscopic methods, although the latter afford striking objects for demonstration. With low dilutions bactericidal and lysogenic phenomena are common, but they do not pertain to the agglutinative reaction itself.

Certain Physical Conditions Influencing the Reaction.—As already mentioned Salimbeni has shown that free exposure to the air favors the reaction, and Widal has pointed out that partial evaporation at the edge of the cover-glass and contact of the specimen with slide and cover-glass are also favoring conditions. Hence, the conditions for the reaction are not exactly the same with the serum-bouillon mixture in thin layer beneath the cover-glass on an ordinary slide, as in a thick layer, or in a sealed drop-culture on a hollow slide, or in a column of fluid in a test-tube, or in a moist chamber. The presence of fibrinous masses, granules and material foreign to blood-serum may perhaps explain in part the greater frequency of partial reactions with normal blood when the dried-blood method is used than when the serum-method is employed. The temperature of the incubator, by favoring evaporation and in other ways, accelerates the reaction. For exact quantitative work these various physical conditions need consideration and further investigation. Widal prefers the use of ordinary slides to that of hollow ground slides, and does not advise keeping the specimen in the incubator. It is not to be supposed that the diagnostic use of the serum-test generally hinges on such delicate points as these, but they are among the points to be considered in the explanation of certain irregularities in the results of the test, in comparing the results of different workers, and in mensuration of agglutinative power, especially with high dilutions.

Reactions with the Colon Bacillus.—Statements of different writers as to the occurrence of the agglutination of the colon bacillus with normal and typhoid sera are not harmonious. Widal and Courmont find that all human sera, whether normal or typhoid, have a slight agglutinating action on the colon bacillus in dilution of 1 to 10, whereas normal sera have only exceptionally any such action on the typhoid bacillus in this dilution. Many observers have noted some agglutination of colon bacilli with typhoid serum, although the reaction is much less intense than with the typhoid bacillus.

Vedel found, in a case with symptoms of typhoid fever but without the typhoid serum-reaction, marked colon-reaction, and he interpreted the case as one of colon-infection simulating typhoid. He is not, however, inclined to attach much diagnostic importance to the colon-reaction, as he found that it might be well marked both with normal and typhoid blood. Johnston and McTaggart found genuine colon-reactions with typhoid blood to be rare, provided the typhoid reaction was well marked. In several cases, however, where the symptoms suggested typhoid but the typhoid serum-reaction was absent, they found marked colon-reaction. They are inclined, therefore, to attach diagnostic importance to the latter reaction. The colon cases were mild and of shorter duration than ordinary typhoid fever.

Künnau makes use of the colon-reaction to assist in the diagnosis of typhoid fever in doubtful cases. He finds that normal serum reacts in the same way with both colon and typhoid bacilli, whereas typhoid serum, even when of weak specific power, reacts much more intensely with the typhoid bacillus than with the colon bacillus. By availing himself of this unequal action of typhoid serum upon the two species of bacteria, he felt justified in making the diagnosis of typhoid fever when the agglutinative power of the serum did not exceed 1 to 20. Kühnau's suggestion is interesting, but further investigations are needed to determine its value.

We must also await further studies before Johnston and McTaggart's highly suggestive views as to the existence of colon-infections simulating typhoid and capable of diagnosis by the serum-reaction with the colon bacillus can be accepted.

As was first pointed out by me in 1890, the colon bacillus is an extremely common secondary invader of the body in all sorts of conditions, particularly those with lesions of the intestine. It can very frequently be found in internal organs outside of the intestine in typhoid fever, if careful search is made. We have no satisfactory proof that it produces either symptoms or lesions in most of these cases, and one would expect more common and intense serum-reactions with Bacillus coli in typhoid fever, if the organism was engaged in pathogenic work. The writer has repeatedly taken occasion to protest against what seem to him unwarranted inferences as to the pathogenic significance of the mere detection of the colon bacillus in the internal organs at autopsies, although there can be no question that under certain conditions this bacillus may be pathogenic for man.

As the colon group of bacilli contains numerous races, some approaching the typhoid bacillus closely, it is to be expected that they will vary markedly in their sensitiveness to agglutination with different sera.

Durham found that typhoid-immune serum in no instance produced any agglutinative reaction with ten different specimens of the Bacillus coli obtained from various sources. Colon-immune serum reacted on its own race of bacilli exactly like typhoid serum on typhoid bacilli, but it did not react with all races of colon bacilli, a graduated series of effects being observed with different specimens of these bacilli. Rodet, however, whose results are reported in much less detail than those of Durham, found a certain degree of reciprocal action between colon- and typhoid-immune sera and their respective bacteria.

Date of Appearance and Disappearance of the Typhoid Serum-reaction. Absence of Reaction.—The presence of the specific agglutinative reaction can usually be counted on by the end of the first or the beginning of the second week of typhoid fever. It may appear as early as the second day of the disease (Johnston and McTaggart, C. Fraenkel), but this is very exceptional. It may here be noted that the determination of the exact day of a disease, often so gradual and insidious in its development as typhoid fever, must frequently be more or less arbitrary, and will vary according to the case and with different observers. Sometimes the first appearance of the reaction is delayed, exceptionally until the end of the second or into the third week, or even later. There are cases in which the reaction is missed during the first attack and makes its appearance in the relapse (Breuer, Thoinot, Biggs, and Park, and others). It has even been missed until the first days of convalescence. Blumenthal relates an interesting case in which the reaction was absent during the fever, tests being made on the twelfth and twenty-first days with serum-dilutions of 1 to 10, but it was found with dilutions of 1 to 100 two days after the beginning of apyrexia. Achard likewise once found the reaction only during convalescence. We have not at present a sufficient number of accurate data to furnish definite figures as to the frequency of these delayed reactions, but their occurrence undoubtedly constitutes a defect in the method of serum diagnosis of some importance. A negative result of the test does not exclude the diagnosis of typhoid fever. The probability against this diagnosis is the greater, the later the period of the fever in which the negative result is obtained and the oftener the examinations are repeated. As regards the interpretation of negative reactions, the serum-test does not differ from other bacteriologic diagnostic tests, that for the tubercle bacillus for instance.

There are authentic cases of typhoid fever in which repeated examinations of the blood during the course of the disease and its convalescence failed to reveal the specific agglutinative reaction, even with serum-dilutions of 1 to 10. We cannot at present say what percentage of the total number they make. Widal and Sicard found absence of the reaction in only one out of 163 cases of typhoid fever examined by them. In this negative case, in which the diagnosis was confirmed by cultivation of typhoid bacilli obtained by hypodermic puncture of the spleen, the reaction was absent during the fever, the apyrexia, the relapse, and the convalescence. Of 116 cases of typhoid fever examined by Courmont, the reaction appeared in all, being delayed after the eighth day in only five. Of 70 cases examined bv Chantemesse, it was present in all. Of 129 cases examined by Johnston and McTaggart, if a few cases examined only late in convalescence, or at a very early stage without re-examination, be excluded, the reaction was missed in only one. In many reports cases, believed to be typhoid, are recorded as giving negative reaction when only one examination was made, this being sometimes early in the disease. Such cases doubtless belong mainly to a group with delayed reaction. The importance of repeated examinations is illustrated by such observations as Stern's, in which the test was negative at the end of the second week and positive two days later; of Widal's, negative on the tenth, positive on the twenty-second day, and several others of similar purport.

The agglutinative power of the blood tends to increase during the progress of the fever, but there are exceptions, and in general the intensity of the reaction is subject to irregularities and oscillations, which may be notable from day to day. There may be marked sudden rise or fall of reactive power. While weak reactions are more common in mild cases, there is no definite correlation between premature or delayed development or the intensity of the reaction and the gravity of the disease. The persistence of high agglutinative power, for example 1 to 2000, after subsidence of the fever, does not prevent relapses.

In the majority of cases the specific agglutinative power of the blood diminishes in the first weeks or months after cessation of the fever and disappears within a year. Exceptionally it may vanish as early as eight or ten days after the fever. Widal and Sicard noted its appearance on the eighteenth and twenty-fourth days, Breuer on the seventeenth and twenty-fifth days, E. Fraenkel on the twenty-eighth day after defervescence, etc. Disappearances at such early dates as these are, however, not the rule. According to Courmont's experience, the serum-reaction disappears in children most frequently during the course of the first two months, and in adults toward the fifth and sixth months, although it is not uncommon for it to continue a year. The specific reaction may, however, persist for years, perhaps indefinitely. Of forty cases which had had typhoid fever at least a year before examination, Widal and Sicard found the agglutinative reaction, either marked or slight, in eleven; after one and one-half year, one case, reaction weak; after two years, one case, reaction weak; after three years, two cases, in one marked, in the other weak; after six years, one case, reaction 1 to 10; after seven years, one case, reaction marked; after eight years, one case, reaction 1 to 1800; after nine years, three cases, one marked, one 1 to 40, one 1 to 30; after twenty-six years, one case, 1 to 30. Kühnau found after one year, two cases with reaction of 1 to 80; after two years, one case, reaction 1 to 60; after seven years, one case, reaction 1 to 60. All others of a series examined (total number not stated) showed negative reaction after one year. It was observed by Widal and Sicard that in contrast to the reactions during infection and for the first weeks after defervescence, those of long standing showed no notable fluctuations in intensity during the periods of examination, extending sometimes over several weeks.

The persistence of the specific reaction after typhoid fever is of importance from two points of view, retrospective diagnosis and interpretation of the diagnostic significance of the reaction during a febrile infection. It is sometimes of interest and practical importance to determine that an individual has previously had typhoid fever. Thus Courmont was able by the serum diagnosis to determine that a patient with multiple neuritis, supposed to follow an attack of dysentery, was in reality convalescent for a month and a half from typhoid fever, and Achard recognized the real nature of an attack of osteomyelitis in a patient who had typhoid fever a year before (cited from Widal and Sicard).

Many writers have called attention to the evident possibility of a mistake in diagnosis when the serum-reaction is found in a person with a febrile infection, who has recovered from typhoid fever, although it does not appear that any serious difficulty has been encountered thus far from this source of error. It, however, indicates the importance of obtaining a careful history of the patient, not only as regards recognized typhoid fever, but as to attacks interpreted as dysentery, gastric fever, appendicitis, malaria, etc. An observation reported by Stern indicates that the specific typhoid reaction may be acquired even without manifest illness. He suggests that careful quantitative estimations of agglutinative power may restrict the possibility of error in diagnosis arising from long-persistent reactions, as increase or diminution in the course of the fever or of the convalescence would speak for fresh infection. Even if the fullest possible allowance be made for this source of error, it applies to so small a number of cases that the value of the method is not seriously impaired.

Presence of the Reaction in Non-Typhoid Cases.—The blood of many hundred persons, either healthy or affected with diseases other than typhoid, has been tested for the specific typhoid reaction, and it can now be asserted that a serum-reaction which an experienced observer using accurate methods would consider characteristic of typhoid fever, is to be found most exceptionally in those who have not had typhoid infection.

Several observers, especially the Germans, find that by adherence to Widal's original directions mistakes may occur, but that these can be avoided by attention to quantitative determinations, especially dilution of the serum, time-limits, and characters of the culture used for the test. The most remarkable observations on this point come from Breslau and are reported by Stern and Kühnau. Stern examined the blood-serum of seventy persons not suffering from typhoid fever, and, according to their statements, never having had typhoid fever. In twenty of these the serum had an agglutinative strength of 1 to 10, in five a strength of 1 to 20, and in two a trace of reaction was obtained, with dilutions of 1 to 30. In none of these cases did he find any reaction with dilutions of 1 to 40. Of more than fifty similar cases examined by Kühnau, in forty-one no reaction was obtained with dilutions higher than 1 to 5. In eight agglutination was obtained with dilutions of 1 to 10, up to 1 to 20; in four with 1 to 30; in three 1 to 35, up to 1 to 40; and in one even with 1 to 50.

In judging these results, apparently so divergent from those of Widal and nearly all others, it is to be noted that both Stern and Kühnau used the microscopic reaction, made two hours the time-limit, even for the lowest dilutions, kept the specimens in the thermostat, and that Stern regarded the clumping and Kühnau the paralysis of motion as the criterion of the reaction, thus apparently recording as genuine what many others would consider partial or pseudo-reactions. It is clear that those who interpret only complete reactions occurring within fifteen to thirty minutes at room-temperature as genuine reactions, would not be likely to obtain any such results as those reported by Stern and Kühnau. Nevertheless, it must be admitted that even partial and late reactions are unwelcome and disturbing, even if an observer thinks that his skill and experience will enable him to avoid mistakes from the occurrence. It may also be, as suggested by C. Fraenkel, that Stern's and Kühnau's normal and non-typhoid cases include not a few who had recovered from unrecognized typhoid infection, and this supposition is the more probable in consequence of the prevalence of typhoid fever in Breslau. Stern himself calls attention to the liability of failure to recognize certain mild cases.

There nave been a few cases reported in which the diagnosis of typhoid fever was made on the basis of the serum-reaction, but which the authors, from subsequent developments, considered to be free from typhoid infection. It has been claimed, therefore, that positive serum-reactions are not a sure sign of typhoid fever, although no one claims that the chances of error from this source are more than slight. The cases reported by Achard and Bensaude, Jez, Ferrand, du Mesnil and Van Ordt have given rise to the most discussion. For what seem to me justifiable criticisms of these reports, I would refer especially to the papers of Widal and of Stern, and I will limit my remarks to some general statements concerning such alleged failures of the serum-test.

In the first place, as the matter now stands, positive reactions obtainable only with dilutions lower than 1 to 50, possibly than 1 to 60, especially if the reaction is partial and late in appearance, are not certain diagnostic signs of typhoid fever. In most of the cases just referred to no exact quantitative estimations of the agglutinative strength of the serum were made, and hitherto it has not been shown that the reaction ever occurs with non-typhoid serum in dilutions exceeding 1 to 50, with observance of other quantitative points which I have already considered. With the limited number of observations, however, which we now possess, we cannot, of course, say but that such cases will be found in the future.

In the second place, infection with the typhoid bacillus cannot be positively excluded either on clinical grounds alone or by anatomic examinations at the post-mortem table. Infections with the typhoid bacillus occur without any characteristic anatomic lesions. There may be entire absence of ulcers or other lesions of the intestine. We have recently had at the Johns Hopkins Hospital a case with positive serum-reaction, from which Dr. Flexner cultivated, in large number, typical typhoid bacilli from the gall-bladder, although there was no previous history of typhoid fever, and there were no intestinal lesions. In 1891 I called attention to the favorable conditions offered by the bile for the prolonged survival of the typhoid bacillus. In one case I was able to demonstrate large numbers of typhoid bacilli in the bile of a rabbit, 128 days after intravenous injection of 0.5 c.c. of a bouillon culture.[4] Pick has reported a case with marked positive serum-reaction in which at the autopsy no typhoid intestinal lesions and no swelling of the spleen were found, but bacteriologic examination showed the presence of typhoid bacilli, not however in the spleen. Guinon and Meunier's case is instructive. During life the symptoms were those of acute miliary tuberculosis and typhoid fever combined. Serum-reaction was positive. At autopsy the lesions appeared to be only those of acute miliary tuberculosis, small ulcers in the intestine being typically tubercular in aspect. Typhoid bacilli, however, were cultivated from the spleen and other parts. As both the symptoms and the bacteriologic examination indicated that the typhoid infection was in course of disappearance, the case, if examined at a somewhat later period, might readily, as Guinon and Meunier remark, be placed to the discredit of the postive value of the serum-test. We are justified, in the light of such cases as these, in demanding that thorough bacteriologic examinations be made before cases which have given during life the characteristic serum-reaction, but which do not present at autopsy the anatomic lesions of typhoid fever, be recorded as free from infection with the typhoid bacillus.

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[4] Welch: Bulletin of the Johns Hopkins Hospital, August, 1891.

In the third place, the difficulty of excluding a previous attack of typhoid fever, after which, as already stated, the specific serum-reaction may exist for years, is to be borne in mind.

In conclusion, I would emphasize the following practical points:

1. Experience has demonstrated that the method of serum diagnosis of typhoid fever is of great practical value.

2. The alteration of the blood on which this method is based, is a specific effect of infection or intoxication with the typhoid bacillus.

3. The microscopic serum-test is to be preferred to the macroscopic methods.

4. Quantitative determinations, relating especially to the culture, the time-limits, and the dilution of the serum, are of importance, and, at least in doubtful cases, should not be neglected.

5. As the reaction may be delayed or occasionally absent, a negative result of the test does not exclude the diagnosis of typhoid fever. The later in the course of the disease the test is applied, and the oftener the examinations are repeated at intervals, the less is the probability of the existence of typhoid fever.

6. The persistence of the reaction, sometimes for years, after recovery from typhoid fever, is to be borne in mind in interpreting the reaction in febrile conditions. The appearance of the reaction and its increase during the period of observation speak for fresh typhoid infection.

7. The danger of mistakes from positive reactions in non-typhoid cases can be guarded against in nearly all cases.

8. Provision should be made, especially by the establishment and support of municipal or State laboratories, to render generally available to practitioners the serum-method of diagnosis, as well as other bacteriologic procedures of similar practical value.

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Leprosy Treated with Airol

Dr. Domenico Fornara (*Therap. Woch.*, IV, No. 5; p. 103; *Aerzt. Rundschau*, VII, No. 5, p. 71) reports remarkable results from the use of airol in a case of leprosy. The disease had already invaded the eyeball and produced abscesses in the clavicular region, when, after vain experiments with other remedies, he decided to try a 10-per-cent. ointment of airol, rubbed over the entire body. Encouraged by the improvements noticed, he decided to inject airol directly into the leprous tumors. The results were remarkable indeed. The small nodes disappeared, the larger ones became smaller, the abscesses healed, the conjunctiva became normal, and the hair began to grow again. The mixture used for injection consisted of airol, 5; glycerin, 35; and distilled water, 10. That the airol is absorbed, partly at least, by the blood is shown by the fact that after the injections the author found traces of iodine in the urine, and after some time there appeared a grayish line around the gums, due probably to the bismuth. (As is known, airol is chemically bismuth-iodo-gallate.—W. J. R.) Dr. F. hopes to present his patient to the leprosy congress, which meets in Berlin in October, completely cured. (The case has been examined by Prof. Profeta, of the University of Genoa, and by him the diagnosis of leprosy confirmed.) M.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Joseph P. Winston, M.D., George E. West, M.D.,
W. J. Robinson, M.D., L. Schöney, M.D.

Anesthesia—Experimental Effects

Dr. Allen, in *Am. Med. Jour.*, No. 299, pp. 298-310, observes as follows upon conditions unfavorable to the patient:

1. Slowness of operator, disregard of patient's heat-loss during operation, while much care was used in asepsis.
2. With other operators, loss of time, loss of blood, and loss of heat had particular attention, with less regard to niceties of asepsis. Class 2 have better general results than Class 1. In order to find out the cause of this and further effects, a series of experiments upon animals was made, and observations upon operative cases were conducted. The effects of ether, chloroform, and the A. C. E. mixture were studied, the body-warmth being aided in varying degrees. Studies of blood-pressure by withdrawal of blood were also made; also effects of shock, slow operations and much blood-loss, rapid operation and little blood-loss.

Conclusions: (*a*) Prolonged anesthesia decreased body-heat, but it may be prevented by suitable coverings, or even increased by artificial heat. (*b*) Cessation of ether-anesthesia is followed by quick reaction to normal temperature. Chloroform and the A. C. E. mixture gradually lowered the temperature after cessation for some time. (*c*) Loss of blood-pressure corresponds with loss of heat. (*d*) High temperature of room increases body-heat, but lowers blood-pressure. (*e*) Slow operations with blood-loss produce greater loss of blood-pressure than major operations quickly done with prevention of blood-loss. (*f*) High temperatures, 93° F., exhaust operator as well as patient. Heat, time, and blood should be saved in all operations.

Accessory Thyroid Gland at the Base of the Tongue—Its Removal Followed by Myxedema

In the *Centralbl. f. Chirur.* (No. 17, 1897) Dr. Seldowitsch, St. Petersburg, reports the following unique and interesting case: A girl of 14 had a round, smooth, rather hard tumor at the base of the tongue; its size was that of a cherry. For the past few months she experienced great difficulty in swallowing, and the tumor was removed by the galvano-caustic snare; upon histological examination the tumor proved to be thyroid tissue. Seven months after the operation the girl presented a most typical case of myxedema; especially pronounced were the intellectual changes. Though many accessory thyroid glands in the neck have been removed, this is the first case where such extirpation (of an accessory gland) was followed by myxedema. The author is of the opinion that in this case there was no normal gland, as it could not be felt in the neck. The patient was treated with thyroidin, and she left the hospital perfectly well and able to work. M.

The Plague

Etiologically and pathologically the bubonic plague is like typhus in which petechiæ, hemorrhages, and glandular phenomena inflammations may be met. "Pestis minor" has the same character as the plague but differs in severity. Known to Greek physicians and introduced into Europe in the sixth century, for one thousand years it held sway at intervals. It last attacked Great Britain about the end of the seventeenth century, and finally its last traces were seen along the Black Sea. Russia was subjected to invasions via Astrakan, says Dr. E. F. Willoughby, of London, in *Am. Jour. of Med. Scien.*, No. 299, pp. 253-258. Continuing, he gives rapid sketch of its home in Arabia, Euphrates Valley, Central Asia, and Southern China, and how recently it made inroads along North Africa, crossed the Himalayas, and went into some of the far East islands. Following wars and famine, it is favored by poverty, filth, and overcrowding. It has never crossed the oceans and is not found at the equator. Aryans, Semites, and Mongols have suffered at times, India only in times of famine. Jackals, dogs, and pigs have been attacked after devouring corpses which are often left exposed. Rats were attacked in every place. Incubation is short, from three to six days. How long a patient may after recovery communicate the disease to others is not determined. Inhalation of infected dust, handling of fomites, eating with soiled and unwashed hands, are the real modes of infection. The "pestis minor" bears the same relation to the bubonic plague as farcy to glanders. It is the connecting link which keeps alive the infection. It has the same disseminated adenitis, certain amount of fever, definite course ending in recovery, but may after weeks or months, during which patient has scarcely been conscious of illness, suddenly develop into an attack of unmistakable and probably fatal plague. Kitasato's discovery of the specific bacillus, the same in each, proves the identity and explains the method of contagion.

September 23 last news was given in Bombay to the Sanitary Committee that the plague had been in the city for a fortnight. The natives knew it two or three months earlier. Bombay lies low, surrounded by swamps, its sewerage defective, its soil sewage-sodden. A "house" contains from 300 to 600 people or more. Quarantine is impossible. The fleeing populace spread the disease.

Sodium Sulphate in Hemorrhages

Dr. Reverdin (*Rev. méd. de la Suisse Rom.*) has employed small doses of sodium sulphate in different kinds of hemorrhages with very good success. He gave 1-60 grn. every hour in cases of epistaxis, menorrhagia, and metrorrhagia, and in post-operative hemorrhages. His experiments on animals have shown that the sodium sulphate accelerates the coagulation of the blood. M.

A Form of Tubercular Arthritis Peculiar to Infancy

Rorsing (*Archiv. f. klin. Chirurg.*, Vol. LIII, p. 620) has observed in infants under 1 year of age, if tuberculosis attacks a joint, it manifests itself as an acute suppurative synovitis, marked by great tenderness and fluctuating swelling. As tubercular arthritis, rarely presents itself in this manner in an older child, Rorsing looks upon this type as the normal one in early infancy. As an illustration he cites the following case:

N. P., 13 months old, an illegitimate child, born of a scrofulous mother, was said to have suffered a good deal from cough, and was poorly developed. Two days before operation, without known cause, the left knee suddenly swelled. Examination showed its circumference to be 4½ ctm. greater than the left, and the joint cavity and subcrural bursa to be much distended with pus.' An incision was made on each side of the patella and a quantity of yellowish-gray pus was evacuated. There was apparently no bony lesion. The joint was irrigated with large quantities of sterile water and drained. The dressing was changed on the eighth day and the drains removed. There was no pus. The temperature had fallen from 40° C. to 38.3° C.

On the thirteenth day the temperature rose and suppurative arthritis, with distension of the right shoulder-joint, developed, and was treated in the same manner. Both wounds healed well. An abscess developed in the quadratus femoris, evidently secondary to that of the knee-joint. This was also opened and drained. In five months all the wounds had healed, and the motions in the joints were nearly normal. Microscopic preparations from the knee-joint showed only tubercle bacilli. No germs whatever were obtained from the shoulder-joint.

The child was the oldest of the seven observed by Rorsing, and the course of the disease was one of the most prolonged. All of the other infants were under 1 year of age. Sometimes the arthrotomy wounds were healed and complete function of the joint restored in less than three weeks. Tubercle bacilli could not be demonstrated in every case; but the author felt reasonably certain of the diagnosis in every case. Gonorrheal arthritis occurs in the first year of infancy, but it is extremely seldom that a case has been reported; and only isolated cases of suppurative artnritis caused by pneumococcus, streptococcus, and staphylococcus are on record. It is at least established. whether or not all of these cases were tubercular, that tuberculosis of a joint at this early age can present these acute symptoms and take this rapid and on the whole favorable course.

These cases also raise the question as to the relation of pus to tuberculosis. It has been generally held by surgeons (Koring, Volkmann, Bruns) that suppuration in connection with tuberculosis is an unfavorable symptom. There are, however, reasons why it is to be looked upon as indicative of the death of the tubercular process. These reasons are:

1. That tuberculosis which has gone on to suppuration and rupture of an abscess, so often heals entirely without medical treatment.
2. That a spondylitic abscess usually appears with the cessation of the spondylitic symptoms, and that simple aspiration of the pus often leads to a permanent cure.
3. That it is difficult to find tubercle bacilli in tubercular pus.
4. Koch's experiments have proved that suppuration is especially apt to occur in connection with the death of the tubercular bacilli.

If this theory is the true one, and the suppuration which occurred in these cases is looked upon as the sign of the rapid death and destruction of the tubercle bacilli which had made their way into the synovial cavity, the course of the affection is easy to understand.

One other question presents itself, and that is why this favorable and rapid course should occur only in very young children, and that Rorsing thinks is explained by the fact that the tissues of a very young child possess a marked vitality, so that they are able in a surprisingly short time to overcome tne invading bacilli. In other words, it is only an extreme instance of the well-known fact that the younger the subject the more favorable the prognosis of surgical tuberculosis.

The practical points of this study are two:

First, that a suppurative tuberculosis of this rapid type occurs in the joints of infants of less than one year old, and ought to be recognized and not mistaken for or treated septically as an ordinary abscess.

Second, that the process is confined to synovial membrane, and therefore arthrotomy alone is indicated, and not resection or any other more serious operation.

Recognition of the Morphine Habit

In answer to the question if it is possible positively to recognize a victim of the morphine habit, Vorsin says, in the *Lyon Médical*, by the following signs a certain diagnosis may be made:

1. By means of hypnotism.
2. By means of a constant myosis.
3. By means of inspection of the underclothing, which is soiled gray if morphine has recently been used.
4. By means of the examination of the skin, which usually presents traces of puncture.
5. By means of the analysis of the urine, in which morphine can be demonstrated if the quantity used daily exceeds 10 ctg.

Intrauterine Typhoid Fever

Dürk mentions (*Munch. med. Woch.*) an autopsy performed upon an infant which died nine hours after birth. The mother was at the time in the third week of typhoid fever. Cultures from the liver of the child developed the Bacillus typhus abdominalis, and cultures from the spleen the Staphylococcus pyogenes albus. This is the fifth reported case in which typhoid bacilli have passed from the mother into the fetus. This is most easily explained by supposing that the micro-organisms passed through some lesion of the placental epithelium into the circulation of the child.

Fatty Liver and Ileo-colitis

Dr. R. G. Freeman, at a stated meeting of the Section on Pediatrics, New York Academy of Medicine (*Pediatrics*, Feb. 1, 1897), stated that he had recently made an autopsy on a case of entero-colitis with a very large fatty liver. The clinical history was similar to that of one recently presented to this section by Dr. Southworth. The child had been admitted to the foundling asylum suffering from vomiting and diarrhea, and severe straining at stool. Upon autopsy, the body was found poorly nourished; the heart was negative; the lungs showed slight hypostatic congestion. The liver extended from the third space to below the level of the umbilicus, and weighed fifteen ounces, although the child was only five months old. Microscopical examination showed the liver to be extremely fatty. Spleen and kidneys normal. There were congestion and pigmentation in the ileum, and in the colon was an ulcer one-eighth of an inch in diameter. Stomach normal. Dr. Freeman stated he had collected the records of 206 autopsies at the Foundling Asylum. In 57 of these cases, or 38.2 per cent., the liver was distinctly fatty on gross examination. Most of these children were under 3 years of age. This percentage is less than had been noted by others. In this institution the frequency of the fatty liver was only 26.6 per cent. in cases of tuberculosis, whereas in cases of ileo-colitis more than 50 per cent. had fatty liver. Fatty liver, he said, had been observed with about equal frequency in well-nourished and emaciated children. L.

Toxemia

Dr. A. S. Thayer contributes to *Jour. of Med. and Science*, Vol. III, No. 6, p. 173, a paper the aim of which is to call attention to the part played by poisons circulating in the blood, in the causation and progress of disease, to toxemia, using the term in its widest sense. Referring to the nervous system and the extent to which it may suffer from causes originally toxic, the author writes that there is ground for belief that exhaustion—fatigue—is dependent upon poisoning of the cells of the brain, muscles, and other tissues, by the waste-products of functional activity.

Oppenheim, of Berlin, in a recent report, calls attention to poisons as causes of multiple sclerosis. Of twenty-eight cases treated by him in the last few years, in which the history was looked into carefully, eleven of the patients had long been exposed to the influence of mineral poisons, such as lead, copper, and zinc. In a part of Oppenheim's cases, also, the poison of some infectious disease was the probable cause.

The point which Oppenheim has now made concerning multiple sclerosis, has been known to hold good to a more manifest extent as regards other organic affections of the nervous system.

Last October, at a meeting of the neurological section of the New York Academy of Medicine, a paper was read by Dr. Van Gieson, in which he asserted that "the majority, if not nearly all, of the diseases of the nervous system are dependent upon, or secondary to, diseases of the general body; and these are usually due to, or associated with, *poisoning*, from intrinsic or extrinsic toxic agents—bacteria and their poisons, auto-intoxication, alcohol, and so forth."

The Relation of Tonsillitis and Acute Articular Rheumatism

Boichon (*Gaz. heb. de Méd. et de Chir.*, Nov. 22, 1896) says that 50 per cent. of the cases of acute articular rheumatism are preceded by tonsillitis. Usually this appears three or four days before the arthral symptoms manifest themselves, though the interval between the two infections varies from two to twenty days. Usually the tonsillitis is a simple erythematous type, but it may present the severer forms of follicular, herpetiform, or phlegmonous. There is nothing unusual in the character of its symptoms. Bacteriological investigation has failed to discover any specific agent. Only the common microbes of suppuration have been found.

The specific remedies of acute articular rheumatism do not have any constant effect upon the development of this tonsillitis. The author therefore concludes that this premonitory tonsillitis is not of a rheumatic nature, but that inflammation of the tonsil is one of the causes which favor the development of rheumatism: the agent, as yet unknown, of this latter affection penetrates into the organism by means of the tonsillar lesions.

Hydronephrosis from Pressure of Fibroid Tumor on the Ureter, with Death from Exhaustion

Dr. H. C. Coe related the following history, in connection with an interesting specimen of the foregoing presented before the New York Obstetrical Society (*Am. Gyn. and Obstr. Jour.*, May). Patient, aged 42, had been under the reporter's observation for thirteen years. First examined at the Polyclinic, an extra-peritoneal fibroid, the size of an English walnut, was diagnosed, being situated in the vesico-uterine pouch, giving rise to few if any symptoms. As its growth was slow, there seemed to be no indication for interference. Dr. Coe lost sight of her for three years, when, in 1890, he was asked to assist at an abdominal section upon the patient at the Infirmary for Women and Children, on account of a cystic tumor in the region of the right kidney. This was found to be a hydronephrosis the size of an orange, due to pressure on the right ureter, which was dilated throughout its entire extent. When traced into the pelvis it was seen to be compressed by the fibroid, which had increased to three times its former size. An unsuccessful attempt was made to enucleate the fibrous tumor. The kidney was not disturbed. As a result of the manipulation the pressure upon the ureter was relieved. The patient had a gush of urine, and the hydronephrotic enlargement disappeared. The patient made a good recovery, but a year later the reporter performed Cæsarean section successfully on account of dystocia, caused by the intrapelvic growth. For three or four years subsequently, while under observation, she enjoyed good health, the tumor not increasing in size. Three weeks ago he was sent for and found that she had been ill for a week with vomiting, obstinate constipation and high temperature. On examination the tumor was found to have increased in size, so as nearly to fill the pelvis, while at the site of the right kidney was a cystic swelling as large as a man's hand. Though the abdomen was considerably distended, it was not tender. The patient was greatly emaciated, becoming gradually weaker and weaker. The daily amount of urine was about forty ounces, containing albumin, blood and pus, but no casts. The diagnosis lay between pyonephrosis, due to intrapelvic pressure, and malignant disease, but at no time was it deemed advisable to attempt an operation. At the autopsy, universal intestinal and omental adhesions were found. The right kidney was transformed into a cystic tumor, containing at least a quart of turbid fluid. The corresponding ureter was dilated to the size of the little finger. The left kidney had also undergone cystic degeneration, though the ureter was not compressed. The tumor proved to be a fibroma between the cervix and the posterior wall of the bladder, but not intimately attached to either. It could have been enucleated without injury to either the ureter or bladder. The interesting points in the case were: 1. The serious results due to the presence of a small fibrous tumor when so situated as to compress the ureter and also the resulting dystocia. 2. The importance of removing such tumors, especially as they are usually easily accessible by the vaginal route. 3. The fact that the hydronephrosis was at one time relieved by simple manipulation of the intrapelvic growth. 4. The long period during which the patient was under observation and the absence of symptoms until a few days before her death.

In the discussion following, Dr. Edebohls stated that an interesting point in connection with this subject is the fact that the same compression of the ureter which has led in this case to enormous dilatation of the latter, is often found associated with intraligamentous fibromata, which frequently displace and compress one or both ureters. He had such an experience, the removal of the fibromata doing away practically with the condition, the patient's kidney, to all intents and purposes, attaining its normal condition and size, the urine never afterward showing any abnormality as to secretion or action of the kidney.

L.

Diabetes Mellitus

Dr. Heinrich Stern contributes an article (*New York Med. Jour.*, Aug. 10, 1897) on the prodromic stage, the early recognition, and early treatment of diabetes mellitus.

The diagnosis of a prodromic stage of diabetes mellitus may be made in the order of succession of symptoms, a part of the family diabetic diathesis by:

1. Gastro-intestinal disturbances, intolerance of carbohydrates, and occasionally of hydrocarbons, hyperchlorhydria, gastrocholia, and hepatico-pancreatic disturbances.
2. Sickening pain in epigastric region, increasing after eating and after pressure. Dull pain in right hypochondriac region, sometimes tensiveness around the umbilicus.
3. Polysarcia, disappearing as dextrose is eliminated; no excessive appetite or thirst.
4. Diminution of sexual inclination, great nervous irritability, and occasional hypochondriasis, when genito-urinary neuroses are accompanying; no emaciation if diabetes is occurring independently of any other diathesis.
5. Disorders of the cutaneous surface; dermatalgia; diminution or suppression of perspiration and transpiration; overloading of blood with carbon dioxide.

The urine during the preglycosuric stage, with the exception of an occasional azoturia, an increased excretion of nitrogenous matter, is quite normal. The sweat is free of glucose.

The treatment should be of a hygienic and dietetic, as well as of a medicinal nature.

The very first thing which ought to be done with the patient, when and wherever circumstances permit it, is to send him to another soil and to another climate. The author also recommends air-baths. At an ordinary temperature the patients sit undressed in their rooms, or, what is still better, they perform gymnastics to promote an increased activity of the skin. Warm-water baths or steam baths and massage are also valuable accessories in the stimulation of perspiration and transpiration. Warm underclothing, in the heated as well as in the cold season, is essential during the prodromal stage. A moderate amount of walking is beneficial.

Dietetic measures, as exclusion of carbohydrates, play an integrant and very important part in the modern treatment of diabetes mellitus, and this without any scientific basis. The writer does not prescribe the complete exclusion of one or the other food-stuff, but orders a diminished supply of all of them. He lets a patient partake of anything he likes (with the exception of alcoholics, and especially malted beverages) in limited quantities and at stated hours. Milk and milk products, among the latter principally the unadulterated American store cheese, are valuable food-stuffs in the preglycosuric stage.

The medicinal treatment of the first stage of diabetes mellitus is very essential. The author has tried a variety of remedies with more or less success; arsenic, or arsenic and gold are undoubtedly the peers of all other remedial agencies in that condition.

Gold has been made use of as a therapeutic agent from time to time in the treatment of diabetes. Dr. J. A. Robinson reports two cases of this affection in which the chloride of gold and sodium produced a steady decrease and consequent disappearance of glycosuria.

Bromide of gold in combination with bromide of arsenic, as in Barclay's solution, which latter is known to the physician as arsenauro, is certainly a powerful metabolic stimulant in the early treatment of diabetes. He is in the habit of starting a patient with five drops of this liquor, in plain or Vichy water, twice or three times daily, and gradually increasing the dose until full physiological effects are produced. A patient afflicted with incipient diabetes takes at this present day fifty drops of the liquor three times daily. He discontinues the administration of the liquor as soon as the indications of a physiological saturation become evident, but one or two weeks later the patient starts in again as before. In this manner he keeps up the alterative influence for any length of time without producing aurism and arsenicism. To the powerful action of arsenic and gold, which, in the form of arsenauro can be steadily and safely administered, he ascribes the non-appearance or the disappearance of glycosuria in a number of cases cited; arsenic and gold, in this combination, seem to act as modifiers and improvers of the disturbed metabolic equilibrium of the prodromic stage of diabetes mellitus.

PEDIATRICS

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Hereditary Interstitial Nephritis in Infancy

Dr. Hellendall reports the occurrence of hereditary nephritis in two little girls. (*Arch. f. Kinderheil.*, Vol. 22, 1-2.) The mother of the two sisters has been suffering from chronic nephritis for years. In the children the autopsy showed the kidneys on both sides to be affected. It is noteworthy that in the left kidney of one of the children there were found small chondromata. From the very high degree of cirrhosis and from the youth of the children the author concludes that the process must have begun in utero. Syphilis could in this case be excluded with absolute certainty. M.

Dilatation of the Stomach in Nursing Infants

At a meeting of the Paris Société Médicale des Hôpitaux held on June 18, 1897 (*La Méd. mod.*, No. 50), Dr. Comby read a paper with the above title. As far back as 1884 the author called attention to the frequency of dilatation of the stomach in infants and now, after numerous post-mortem measurements of infants' stomachs, he is able to give his observations in a complete and scientific form. The normal capacity of a child's stomach during the first two years is as follows:

At birth—30 to 40 c.c. (8 to 10 fl. dr.).

At 1 month—60 c.c. (15 fl. dr.).

At 2 to 3 months—80 to 100 c.c. (20 to 25 fl. dr.).

At 3 to 6 months—120 to 150 c.c. (4 to 5 fl. oz.).

At 6 to 12 months—200 to 220 c.c. (6½ to 7 fl. oz.).

At 1 to 2 years—300 to 350 c.c. (10 to 12 fl. oz.).

Here are some measurements of stomachs of children, who were either fed artificially, or suffered with gastro-enteritis, etc.:

1. Out of 26 infants, from 0 to 3 months of age, only 6, who were fed at the breast or were too feeble to drink with avidity the milk which was given them, had normal or subnormal stomachs. All the rest had a more or less marked or excessive dilatation (200, 250, 310 c.c.).

2. Of 19 infants from 3 to 6 months only 4 had small stomachs; the other 15 had stomachs measuring from 300 to 340 c.c.

3. Of 28 infants from 6 to 12 months, 6 had small stomachs (under "small" is to be understood normal or subnormal); all the rest had dilatation, which in some instances reached enormous dimensions (350 to 635 c.c.).

4. Seven children from 1 to 2 years had a dilatation amounting from 400 to 740 c.c. *En résumé*, out of 80 children, whose stomachs were measured 64 or 80 per cent. had dilatation. As to the diagnosis, one of the best signs is furnished by the stomach-tube, which will remove unabsorbed lumps 5 and 6 hours after a test meal. By the aid of lead-acetate paper we may be able to detect sulphuretted hydrogen in the vomited matter.

The best treatment of this condition is lavage of the stomach. Of course all other therapeutic measures and alimentary hygiene must be attended to. M.

Organo-therapy in Pediatrics

In the *Policlinico* (April 15, 1897), Dr. Stoppato, of Padua, reviews the field of organo-therapeutics in children's diseases. The importance of the thymus-gland during fetal life and first childhood justifies its employment in children. Ten children were treated with the fresh thymus-gland of the calf, raw or slightly roasted. Of those ten children four were atrophic, four rachitic, one anemic and one scrofulous. The dose at the beginning was 2 gme. and was gradually increased to 20-40 gme. The improvement of the general condition was very decided in the atrophic children, less so in the rachitic, and not at all in the scrofulous. Bone-marrow (a 25-per-cent. glycerin-extract of the bone-marrow of calves' ribs; dose 6 gme. pro die) was tried on rachitic and anemic children, and only in one rachitic was there a temporary improvement. But a case of leukemia was completely cured by it. Thyroid gland was tried in myxedema, idiopathic tetany (in this disease for the first time), and in pseudoleukemia. Calves' thyroids, raw, fresh, and finely rubbed up, were given in doses of from 2 to 4 gme. The case of myxedema and the cases of tetany were cured.

In a case of diabetes insipidus fresh, slightly roasted pancreas was given in doses of from 10 to 60 gme. during one month, without any success. In conclusion, the author says that in malnutrition of children the thymus-gland is superior to all remedies. It is well borne even by very small children. During its administration a temporary increase in the excretion of urea and also increased leukocytosis were observed. M.

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Schellenberg reports eight cases with symptoms of poisoning following the injection of iodoform glycerin, which he rightfully calls glycerin-intoxication.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Neurasthenia an Abdominal Neurosis

Dr. G. B. Massey, in *Virg. Med. Semi-Monthly*, June 25, suggests that the trouble in neurasthenia is a break in the circuit of neuronic connections, but that the neurons affected are those situated in the visceral ganglia of the abdomen. So far as known, no pathological lesions of the solid structures have yet been shown to be peculiar to neurasthenia; hence it is placed in the class of neuroses or disordered functionations of the nervous system. The fact that the seat of this disordered nervous action has been tacitly assumed to be in the cerebro-spinal system by Beard and subsequent writers and practitioners, making the disease practically synonymous with nervous prostration or exhaustion from excessive expenditure of cerebro-spinal energy, is, in the opinion of the author, disproven by the fact that many persons do a prodigious amount of work without such consequences, and the further fact that the disease is most frequently found in persons unburdened with active concerns of any kind, or who, if actively engaged at all, are not engaged with affairs of a kind to claim even a healthy amount of either work or attention. While he does not mean to say that all neurasthenics are insufficiently occupied, for some are the hardest kind of brain-workers, and many are only prevented from performing a normal amount of work by reason of their affliction, he had been wholly unable to verify the impression that overwork has any causal relation to the disease, though worry and anxiety are most potent existing causes. Since the notable work of Bouchard on auto-intoxication (1) by the absorption of toxic agents from imperfectly digested food, (2) by the retention and accumulation of normally produced materials that should be further elaborated and changed, (3) by the production of abnormal substances within the body, a new light has been thrown on this difficult subject. But little consideration is required to convince us that this furnishes an adequate explanation of the mental symptoms of neurasthenia as a simple beclouding of the normal physiologic action of the brain by poisonous elements in the blood. But a reference of the symptoms of neurasthenia to auto-intoxications does not give a complete key to its causation. It should be realized at once as a cardinal fact that the automatic functional activity of all the viscera of the abdomen is presided over by the sympathetic system of nerves, and it necessarily follows that any widespread or synchronous deviation from their normal functionation points to deficient innervation from this source. Strange to say, this obvious explanation of auto-intoxications has received scant notice, if any at all, and no other adequate cause for these associated organic dulnesses has been given. That these visceral ganglia are endowed with initiative or centric powers, is amply proven by the simple fact that if the heart or intestines of a mammalian be completely removed from connection with the body, the muscular tissue will continue to functionate for some minutes, and in reptiles for some hours; and this when only that portion of the visceral ganglia situated within the substance of the organs has been removed with them. As to the true nature of this neurosis of the sympathetic ganglia, we are, of course, as yet in the dark, as we have so long been concerning similar neuroses of the cerebral centers; but it should not be forgotten that recent investigations and reasoning have presented us a most plausible hypothesis, based upon actual observation, which refers such phenomena to retractions of the processes by which the nerve-cells or neurons communicate with their end-organs. To the laboratory, and in particular to clinical investigation, must be relegated its proof or disproof. Partial clinical evidence of this truth is shown in the failure of the psychic and spinal elements of the rest cure to affect favorably true neurasthenia, many cases being actually made worse by the seclusion and discipline that are so valuable in hysteria and the hysterical complications of neurasthenia. L.

Ichthyol in Insect-bites

According to Dr. W. Ottinger (*La Sem. méd.*, XVI, p. 250) the best treatment for the bites of venomous insects, of whatever family, consists in covering the part pricked with a thick coating of a mixture of equal parts of ichthyol and lanolin, or, even better, pure ichthyol. These applications almost immediately soothe the pain caused by the sting, and rapidly reduce the inflammatory tumefaction. In case the insect-bite has already determined the tumefaction of the member, as so frequently happens, the latter is painted over its entire length with pure ichthyol and covered with a sheet of gutta-percha, on which ice is then applied. Besides this the writer administers internally a mixture made as follows:

Ichthyol....	10 gme.
Alcoholized Ether..............	10 gme.

Dose: 10 drops at one dose.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D., DAVID M. STABLER, M.D.

Cancer of the Upper Jaw

Dr. Max Martens, of the Göttingen clinic (*Deutsche Zeit. f. Chir.*, Vols. 44, 45 and 46, S. 483), has collected 124 cases of total resection of the upper jaw operated upon at the principal German clinics prior to 1870, or during the pre-antiseptic era, with a mortality of 35.5 per cent. Billroth's mortality, 1860 to 1876, was 44.4 per cent. At the Göttingen clinic, between 1875 and 1896, there were 86 resections for malignant disease, 74 total, and 12 partial resections. Of the total resections there were 23 deaths due to operation and 33 to recurrence, while 16 were put down as permanent cures. Of the 12 partial resections 1 died from operation, 6 from recurrence, and 2 were cured.

As to which form of causes is the more common in the upper jaw, the statistics showed the 86 cases divided as follows: Carcinoma, 57 cases; sarcoma, 27; osteoma, 1; myxoma, 1. Of the 18 cases looked upon as cured, 8 were carcinoma and 8 sarcoma, so that considering the fact that carcinoma is twice as common as sarcoma in the upper jaw, the prognosis is twice as bad.

In regard to the permanence of the cure, 8 cases of carcinoma were free from recurrence beyond five years, and 5 cases of sarcoma for the same period. One case of carcinoma was well eighteen years after operation, and 1 of sarcoma thirteen and a half years.

If we consider only the cases well beyond five years as cured, we still have 15 per cent. quite enough to warrant attempting the operation in cases that are hopeless without operation; still the operation with all our improved methods is nearly as high as in the pre-antiseptic era, it being 31 per cent. in the 86 cases at the Göttingen clinic (1875-1896), hence in advising operation the danger should be fully considered. D.

Actinomycosis in Man Treated with Iodide of Potassium

Bul. gén. de Thérap. (No. 3, p. 141, 97) abstracts Jurinka's account in *Mittel. aus den Greuzzeb. der Med. und Chir.* (1896, B. 1, H. 2). In three cases of actinomycosis the author obtained complete cure by giving for from one to eight consecutive months a daily dose of one to three grammes. Superficial abscesses were incised without injection or curetting. The secretion from the actinomycosic fistules and the pains felt by the patient were diminished a few days after the commencement of the treatment. In one of these cases the actinomycosis was perityphlitic, a case in which surgical interference is rarely followed by a lasting cure.

The experiments of the author with cultures of the actinomyces on media containing potassium iodide during the whole period of treatment, show that the iodide acted in no way as a parasiticide, but that it only hindered the development of the parasite and invigorated the processes of its elimination from the organism. H.

The Surgical Treatment of Appendicitis

This is the title of a paper by Dr. Andrew J McCosh (*Amer. Jour. Med. Scien.*, May, 1897) which is based upon sixty-nine cases of appendicitis admitted to the author's service in the Presbyterian Hospital (New York) during the two years from January 1, 1895, to January 1, 1897.

In speaking of pain the writer states that no deduction of value could be drawn in these cases from the character or location of the pain as to the exact location of the appendix itself.

Vomiting occurred usually once or twice at the beginning of the attacks, and was not, as a rule, repeated after that. Some nausea persisted in about half the cases. The occurrence of one or more chills is recorded in ten cases. In all these there was suppuration in some form. A distinct chill does not seem to be of common occurrence, at least in the early stages before the formation of an extra-appendical abscess.

Constipation more or less marked has been the rule. In the three cases exhibiting diarrhea throughout there was nothing of note in the symptoms previous to or in the condition found at the time of operation or in the subsequent course of the trouble, which would explain this somewhat unusual symptom.

Of the 69 cases, 26 presented masses in the right side, felt from the outside either before or during anesthesia. In 43 no mass could be made out, even under anesthesia. Of the 26 cases where a mass was felt in the right side, 24 were abscesses, 2 were masses made up of appendix and adhesions, with no pus to be seen microscopically.

Tenderness existed in all cases to a more or less marked degree in the right iliac fossa.

The right rectus and right lateral abdominal muscles were not rigid in the majority of cases. Tympanites is a symptom of the greatest value. Unfortunately the record of this sign in the histories has been so neglected that an accurate estimate of its frequency or extent could not be given. The pulse is of more value than the temperature. In a vigorous young adult a temperature of 103° or even 104° may be present at the beginning of the attacks, and yet the case may prove to be a mild one. So a pulse of 100 or more may accompany this temperature in this class of patients. A pulse of 110 or 120, with a temperature below 101°, is apt to indicate a serious attack. In only three cases were symptoms referable to the bladder observed.

The question of operation is the most important point in the treatment of appendicitis.

When the presence of pus is assured the sooner the operation is done the better. Also there are cases which begin and continue for twenty-four or forty-eight hours with such severity that any judicious mind must conclude that operation is demanded. So in the chronic and relapsing cases, where the symptoms have continued for months with such severity or have recurred so frequently as to subject the patient to a life of semi-invalidism, no wise surgeon can counsel any other plan of treatment than removal of the diseased appendix. Likewise when a patient has suffered from three or more attacks the offending organ should be removed, for other attacks will, in all probability, follow. The same indication for operation also exists if a patient has suffered from two attacks within a year or even two years.

It is impossible to give positive indications for operative interference; but in general it is indicated when at the end of twenty hours the following conditions exist:

1. If the patient looks ill; if there are vomiting and tympanites, with a rapid pulse.
2. If the patient looks ill and there is vomiting, even though the pulse and temperature are each under 100.
3. If the patient looks ill and the pulse is over 110.
4. If there are a rapid and feeble pulse and extreme tenderness.
5. If the local pain and tenderness, at first localized, tend to become general, even though other grave symptoms may be absent.
6. If local pain and tenderness have continued for more than four weeks, or if without diminution for more than two weeks.

B.

The Malignant Factor in Tumors

Dr. C. M. Blackford, Jr. (*Virg. Med. Semi-Monthly*, April 9, 1897), considers this subject. The classification most generally adopted to-day is based on the histological structure of the growth, and in accordance with it, various systems have been drawn up arranging the growth in groups. On studying any of these systems, it will be found that however perfect the grouping may be from a histological standpoint, it is defective from a clinical one, for the structure of a neoplasm seems to give no clue to its malignancy or harmlessness. Every pathologist can say that so far no absolutely reliable means of differentiation has been found. In the etiology of these neoplasms there is even a worse state of confusion, since no rule can be laid down that has not so many exceptions as to invalidate the rule. A serious obstacle to the study of pathology and to its ever becoming an exact science, is that it is forced to depend so largely on analogy for its data. Bearing this in mind, we may none the less gain a valuable hint as to the pathology of these fearful intruders, by studying the two most common diseases that produce new tissue. These are tubercle and syphilis. Both arise as a group of cells more or less unlike the tissues in which they lie, and from a small beginning increase with a varying rate of speed. Both have a tendency to spread, not merely locally, but into distant parts of the body, apparently encouraged by the blood or lymph-channels, and, in the ordinary course of events, both are fatal. Compared with these two affections, the malignant growths acquire a new aspect. If a large tubercular mass or syphilitic gumma be removed, only a temporary relief is expected. Is not the experience of surgeons much the same with the malignant tumors? In some cases after early and complete removal, there is no recurrence, while in others, after apparently as complete extirpation as before, there will be a recurrence either in the seat of the original growth or in some distant portion of the body. There is nothing in the structure of malignant tumors to occasion their grave sequela, the two types considered as "malignant" being the carcinomata and sarcomata. A typical sarcoma and a typical carcinoma differ widely in structure, but in some of the varieties of the former it is difficult, if not impossible, to make a diagnosis by microscopical means alone. Again, every pathologist knows the difficulty of saying whether a given section is a harmless papilloma, or adenoma, or a malignant carcinoma, for each of the benign tumors has a malignant one that resembles it; and it appears that if malignancy depended on any histological element, a papilloma should be as dangerous as any epithelioma, an adenoma as menacing as an alveolar carcinoma.

To what is malignancy to be ascribed? In our present knowledge, this question is difficult to answer, but, from analogy, it is, perhaps, not far amiss to say infection, or, in other words, to describe malignant tumors as local manifestations of some general condition. The nature of this condition and the histogenesis of the tumors are problems yet to be solved, but this view covers all the phenomena, and it is the only one that in doing so, does not involve us in a maze of undemonstrable hypotheses. Heredity, traumatism, and the whole list of "causes," all point the same way, to a weakening of vital resistance, and so far as we can say at present, the malignant factor in tumors is some general diseased condition, of which the tumor is but a symptom. L.

Abortive Treatment of Acute Suppurative Inguinal Adenitis by Pressure-bandage

Henry R. Slack, Ph.M., M. D., in a paper read before the Georgia Medical Association (*Atlanta Med. and Surg. Jour.*, June, 1897), tells us that he had almost despaired of finding a safe and successful abortive treatment for bubo, until last winter, at the Johns Hopkins Hospital, in the genito-urinary clinic, he saw Dr. Gaither apply the pressure-bandage. The author has seen it used in ten cases, with the following results:

One patient complained that it increased the pain, which was so intense he could not bear the bandage on over a few hours. In another case, where fluctuation was distinctly felt, the suppuration continued, and after the third day an incision was made. In the remaining eight the bubo was aborted, including two in which suppuration had begun.

It has the following points to recommend it above any other abortive treatment thus far suggested:

1. It is safe.
2. It generally reduces the pain.
3. It allows the patient to continue his usual avocation without interruption.
4. It gives a large number of successful cases. B.

The Production of Asepsis in Septic Wounds by the Application of Pure Carbolic Acid

The very great value of pure carbolic acid in arresting septic processes is clearly shown by Mr. A. Ernest Maylard, of Glasgow (*Brit. Med. Jour.*, No. 1902, p. 1475). In some of the cases he reports several ounces of pure carbolic acid were brushed over the raw and freely exposed surfaces. In every instance immediate improvement was noted. The following typical cases were cited:

Case I. Traumatic gangrene following amputation for extensive crushing of foot in railway accident. The acid was daily applied for one week until all odor had disappeared. Improvement was rapid and continued until recovery.

Case II. Acute inflammation with sloughing following amputation at hip-joint for advanced tuberculosis. The wound was acutely septic and the child's condition very grave. The wound was opened and every part swabbed with pure carbolic acid. Imimprovement began at once, and the septic process had stopped entirely in one week.

Case III. Acute traumatic gangrene following extensive laceration of the foot. Amputation was regarded as necessary, but the carbolic acid was first tried. Marked improvement followed and the foot was saved. D.

Hydrocele

Dr. Robert T. Morris, in the *St. Louis Clinique* (Vol. X, No. 5), reports the case of a boy of 6 with a hydrocele occupying the left side of the scrotum. When nature did her customary plastic operation of cutting off a part of the peritoneum and leaving it to form the tunica vaginalis, she left this particular sac so constructed that its endothelial layer exuded too much serum, and transformed the tunica vaginalis into a large retentive cyst. The author made an incision over the cyst, slipped the entire hydrocele out of the scrotum, and stripped the sac from the cord. The testicle and cord were replaced in the scrotum and the incision sutured. V.

When Shall We Operate for Cholelithiasis?

According to Dr. C. Beck (*N. Y. Med. Jour.*, Vol. LXV, No. 19, 1897) the operation should be performed:

1. Whenever the diagnosis of acute cholecystitis is made.
2. In chronic hydrops of the gall-bladder.
3. Whenever acute colicky attacks in the region of the gall-bladder, combined with fever, return for a second or third time.
4. Whenever jaundice is present for more than four weeks.
5. In gallstone ileus.
6. In all obscure cases where inflammatory symptoms in the region of the gall-bladder, resembling peritonitis turn up, exploratory laparotomy is indicated.

The laity as well as the majority of physicians are not in favor of the early operation, take rather the risk of the many serious complications for which, after losing much precious time, surgical interference comes too late. O.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N. Hoople, M.D.,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Conical Astigmatism, and Staphylomata of the Sclerotic as a Cause of Astigmatism

In a former paper (*Ophth. Rev.*, April, 1894), the author, Dr. Rayner D. Ballen, called attention to the distortion of the retinal vessels as an aid to the diagnosis of the locality of staphylomata, when occurring in the posterior portion of the globe. He now calls attention (*Ophth. Rev.*, January, 1897), to the diagnosis of staphylomata occurring laterally, or in the anterior portion of the globe.

The points emphasized by the writer are: (1) That in most cases of astigmatism there is evidence of yielding of the sclerotic at some portion of the globe, and the corneal astigmatism is secondary. (2) That where the astigmatism is very high, the yielding of the sclerotic is chiefly lateral and localized. (3) That in cases of conical astigmatism a staphyloma is to be found in the immediate neighborhood of the cornea.

B.

Implantation-cyst of Iris

At the February 5, 1897, meeting of the Leeds and West Riding Medico-Chirurgical Society, Mr. Whitehead read notes (*Brit. Med. Jour.*, March 6, 1897) of a case of implantation-cyst of the iris in a man aged 29, upon whom iridectomy for recurrent iritis had been performed in India five months previously. The cyst formed within a period of three months, and caused glaucomatous symptoms. Tapping the cyst and removal of a portion of the cyst-wall failing to afford relief, the eye was enucleated. A microscopical examination showed that the cyst was lined with laminated epithelium, and originated in the implantation of a portion of corneal epithelium in the substance of the iris during the performance of the operation of iridectomy. B.

Treatment of Dacryocystitis

Mr. Hugh E. Jones read a paper on this subject at a recent meeting (February 5, 1897) of the Leeds and West Riding Medico-Chirurgical Society (*Brit. Med. Jour.*, March 6, 1897), the article being based upon fifty consecutive cases of mucocele, blennorrhea and abscess of the lachrymal sac; thirty-seven cases had neither cicatricial stricture of the nasal duct nor obvious disease of the nose. The remaining thirteen were divided among various forms of organic stricture, and of course nasal disease. The cause of the obstruction in the large majority of cases was engorgement of the erectile tissue around the duct and catarrhal swelling of the lining membrane. Later the obstruction was due in a large measure to overdistention of the sac. The objects to be kept in view during treatment were: (1) To avoid interference with and to preserve as far as possible the physiological integrity of the organ; (2) to render the whole tract aseptic and to restore the mucosa to a condition of health; (3) to reduce reflex irritation of the lachrymal gland to a minimum.

The prolonged use of probes (especially large ones) and styles (apart from direct injury) induced sclerosis of the tissues, made the canaliculus of no physiological use, and sometimes caused periosteal stricture of the duct. These means of treatment should be regarded as last resources. Partial slitting of the canaliculus followed by antiseptic irrigation, as suggested ten years ago by Edgar Browne, was by far the most scientific and most rapidly successful treatment. This fact encouraged the author to dispense with slitting the canaliculus in suitable cases, and he made instead an opening in the dome of the lachrymal sac above the tendo oculi. In incipient cases of obstruction injections of a solution of cocaine and pinol in paroleine (made with Anel's syringe through the undivided canaliculus) seemed the most rational, paroleine being very diffusible and cocaine reducing vascular engorgement. B.

Partial Peripheral Iridectomy in Chronic Glaucoma

In a communication to the Paris Academy of Medicine, Prof. Panas (*Med. Week*, Vol. V., No. 15) stated that Prof. Dianoux (Nantes) proposes to substitute partial peripheral iridectomy for sclerotomy and iridectomy, now generally employed for the treatment of chronic glaucoma.

He first instils eserine into the eye, then incises the sclera above, for a distance of six millimeters, as close as possible to Schlemm's canal. Seizing the iris with a pair of forceps at the point of union between the peripheral and middle third, he pulls it directly outward and divides it flush with the end of the forceps. The result is a supplementary trapezoid pupil, three or four millimeters in width, separated from the normal pupil by the sphincter, which remains intact. B.

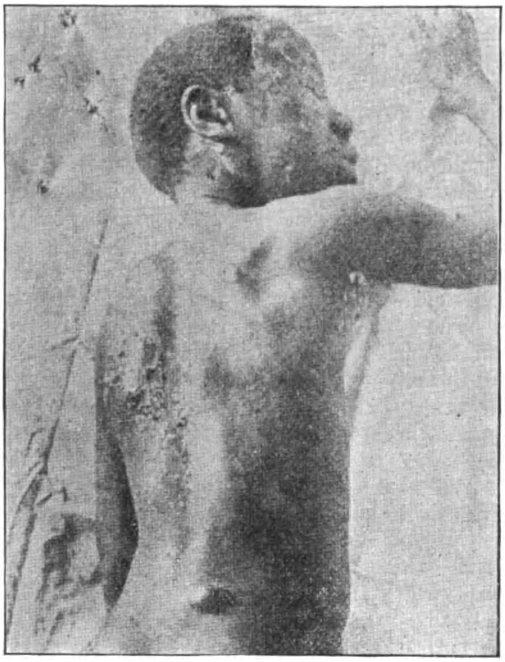
DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D., HOMER E. FRASER, M.D.

A Rapid Method of Curing Pemphigus

Dr. A. H. Ohmann Dumesnil (*St. Louis Med. and Surg. Jour.*, Vol. LXXII, No. 6) records two cases of pemphigus which certainly testify to the efficiency of a mode of treatment which is very simple and easily applied, as well as efficient in the results it brings about.

Case I—Robert M., colored, an inmate of the House of Refuge, was sent to St. Louis City Hospital. The history of the present attack is that, four weeks previous to his admission, he first noticed the eruption; it grew steadily worse up to the time he was seen in the hospital. The bullæ appeared in successive crops, were small at first, then gradually increased in size. The size of bullæ at first were pin's head, gradually passing to size of dime, then a quarter-dollar. There were itching and pain on pressure. Otherwise patient enjoyed good health.



Case I.

The fifth day after admission he was given a pill made, viz.:

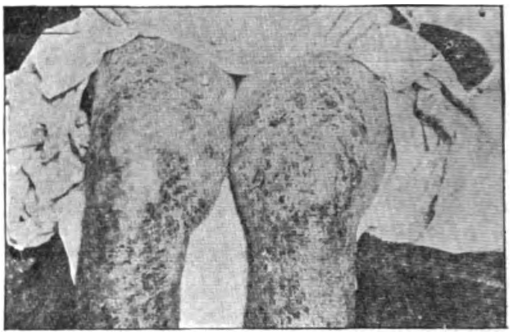
Arsenous Acid.....................$\frac{1}{20}$ grn.
Powdered Black Pepper .. ..1½ grn.
Ext. Gentian..... ..... q. s. ft. pill No. 1.

N. Sig.—One such pill after meals.

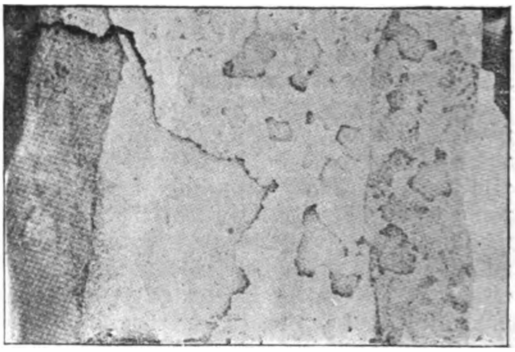
In addition, bullæ were opened, permitting their contents to escape, and an ointment with these ingredients: R. Powdered campho-phenique, 1 ounce; ointment rosewater, 16 ounces, M., was applied.

There were no signs of returning eruption, and the patient made a good recovery. He was kept under observation some time after his recovery before his final return to House of Refuge. No relapse occurred.

Case II—This case was more severe than the preceding one, the patient a woman, aged 48. About three weeks before admission to hospital she noticed redness of legs, large red, slightly elevated spots, which itched intensely. She scratched and a blister appeared. Arms, trunk, and face were also attacked, until finally the entire body was similarly affected. The blebs varied in size from one-quarter inch to four inches in diameter, were close together; eruption appeared in raceme crops, and burst easily.



Case II.



Case II.

The physical condition was negative. Bowels were constipated, tongue coated, appetite poor, temperature normal.

Treatment consisted of a brisk purge, succeeded by Fowler's solution, five drops five times a day, dose gradually increased.

Locally—Blebs were opened and the same ointment applied as in the preceding case. The patient made a good recovery; with no relapse. V.

OBSTETRICS AND GYNECOLOGY

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. DeForest, M.D., H. T. Hotchkiss, M.D.

Treatment of Galactophoritis

Bul. gén. de Thérap. (No. 2, pp. 91-93, 1897) gives Brindeau's method as taken from *Gaz. de Gyn.*, 1896. He recommends that mothers do not touch the breasts except before and after nursing, when they should be washed with a warm solution of boric acid. A small dressing is kept on the breast. If the child has any suppuration, as in the conjunctiva, it must be dressed to keep it free from contact. Budin's digital expression of the pus must be done as follows: With thumb and finger strongly applied to the outer ring of areola press from before backward and deep into the breast. Then approximate them whilst continuing to press outward towards the end of the nipple. Keep up the process from different points. If the infection has invaded a lobule press first from without inward and then forward. Wash with weak antiseptic solution and dress the breast when well-raised. The child must not nurse from this breast. Repeat the process in the evening. Continue the treatment for several days to ensure complete absence of pus before allowing nursing to be resumed in that breast. If a painful lymphangitis accompanies, a few inhalations of chloroform may be given to lessen pain in the operation, and the inflamed lymph-vessels may be sprayed with warm water and dressed with moist dressings.

If an abscess forms treat surgically by deep incision of the pockets, the child meanwhile nursing only from the other breast. Supply deficiency by feeding with sterilized milk till the breast is free from pus.

The Results of the Use of Massage in Diseases of the Female Genitals

Rubenstein in *Vratch*, 1896, No. 10, ref. in *Brit. Gyn. Jour.*, Part XLVIII, p. 628, gives observations concerning 100 cases, and comes to the following conclusions as to its application in the different diseases:

1. Cicatricial parametritis: Here massage is a powerful and in many cases the only successful means of treatment. Gonorrhea does not constitute a contra-indication to the use of massage under the above conditions. Under the influence of massage before everything else they lose the painful sensations and following this the distressing pressure-feelings.

2. Exudative parametritis: In this massage forms a good means of treatment, but its usefulness is limited by the duration of time required to attain its aim, and by the care which it is necessary to use in selecting cases for massage so as to exclude those in whom exacerbation may occur. Hence massage should be avoided when (a) the swelling is distinctly thick in comparison to its extent, (b) and there is increased temperature. Likewise all more or less extensive swellings are unfavorable for massage.

3. Immovable retroflexion of the uterus: Here massage is a sound treatment. Those cases give the best results in which it is possible to reach the fundus uteri with the external hand in combined examination. After rectification of the uterus, the massage should be continued some time. The introduction of a pessary often speeds recovery.

4. In displacement back and to the side the same remarks are applicable as in 1 and 3.

5. Inflammation of the ovaries and the adjacent peritoneum (perioophoritis): Massage is very good in oophoritis, especially when the ovaries are fixed, but the results are very slow.

6. Chronic inflammation of the uterus and hypertrophy of the cervix are neither of them suitable for massage.

7. Subinvolution of the uterus after labor yields to massage very kindly, but the treatment must be continued some time—on an average one and a half months.

8. Amenorrhea: Massage in certain cases will lead to complete re-establishment without pain, and as a rule permanently.

9. Chronic endometritis is not suitable for massage.

10. Mobile retroflexion of the uterus is not very answerable to massage, but in certain cases it constitutes a good method not too heroic and fairly successful. In these the indication for further treatment is to be found in the subjective feeling of the patient after the preliminary sittings.

11. In descent and prolapse of the uterus and vagina, and likewise in vaginismus, massage is of no use, and in the latter it is absolutely contra-indicated. As regards other diseases of the female genitals—for instance, menorrhagia, dysmenorrhea, local salpingitis or vaginitis—the variety of their causes, and the insufficiency of observation prevented the author from arriving at any practical conclusions. He decides from his observations that the number of sittings varies from ten to twenty of four to six minutes' duration, and spread over from two to four weeks; massage of the female genitals is always performed bimanually, and as practically nothing more is required, it is within reach of every medical man. P.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

The Employment of Phenolphthalein in the Differentiation of Coli, Typhoid, and Cholera Bacilli

G. Graziani (*Arch. d. Méd. exper.* IX, 1; ref. *Schmidt's Jahrb.*, Bd. 254, p. 16) added to 200 gme. of alkaline peptonized bouillon, 40 gme. of milk-sugar and 5 ctg. of phenolphthalein. After sterilization, separate tubes of this nutrient medium were inoculated with coli bacilli and typhoid bacilli. It was found that at 37° C. the coli bacilli decolorized the red nutrient medium within from twelve to twenty-four hours, while the typhoid bacilli did not.

He next added to 200 gme. of peptonized-beef bouillon 40 gme. of milk-sugar and 10 ctg. of fluorescin. This brick-red nutrient mass was placed in sterilized test-tubes and then inoculated with cholera bacilli and Escherich's bacilli. While the cholera bacillus dissipated the fluorescence and transformed the red of the medium into a light brown, this change was absent in those tubes inoculated with Escherich's bacilli.

The author concludes, therefore, that phenolphthalein is adapted for the differentiation of the coli bacillus from the typhoid bacillus, and fluorescin for differentiation of the cholera bacillus from the bacillus of Escherich. Nutrient media prepared with fluorescin arrest the development of bacteria, with the exception of the cholera bacillus.

If it is desired to distinguish the coli bacillus from the cholera bacillus, care should be taken, the author observes, to note that with the former the phenolphthalein nutrient medium is rapidly decolorized, while the cholera bacillus produces this effect only after from twenty-four to thirty-six hours, but never earlier.

Rôle of the Anterior Epithelium of the Cornea in Ocular Exosmosis

Mermet, at the Jan. 9, 1897, meeting of the Society of Biology said (*Ann. d'Oculist.*, Tome XVII, p. 70, 1897) that it is generally admitted since Leber that it is Decemet's endothelial layer that resists filtration outward of the aqueous humor. He believes, on the contrary, that the protective function ought to be attributed to the corneal epithelium in this exosmosis. Anatomically, Decemet's membrane differs little from other serous membranes, and is not more capable of preventing diffusion than its mesodermic congeners. This is so, also, of the corneal parenchyma, of the same origin. But the anterior epithelium, derived from the ectoderm, ought to play a protective part, like the cutaneous ectoderm.

Clinically, we know that glaucoma is often accompanied by corneal lesions known under the name of bullous keratitis. Histological examinations have shown that we had to do here with a simple lifting up, or peeling off, of the anterior epithelium of the cornea. The ocular tension is thus a consequence of imbibition in ocular hypertone—a hydrotomy of the corneal tissues whose barrier is the epithelium in front.

Experimentally, we can demonstrate that a cornea denuded of this epithelium allows the aqueous humor to ooze out. More than that, we can show easily, by injection of a salt of iron into the anterior chamber and instillation of a ferrocyanide into the cornea, that an epithelial lesion is necessary to bring out the reaction of Prussian blue on the cornea. The lesion of the endothelium, contrary to what Leber advanced, is not necessary. On the eyes of rabbits with keratitis, the characteristic reaction appears spontaneously. H.

Researches upon the Pneumobacillus of Friedlaender

L. Grimbert (*Ann. d. l'Inst. Pasteur*, X, 12; ref. *Schmidt's Jahrb.*, Bd. 254, p. 16) confirms the frequent occurrence of Friedlaender's bacillus in water, and identifies it with the Bacillus capsulatus Mori. For the isolation of Friedlaender's bacillus from the coli bacillus, which is also of frequent occurrence in water, he recommend's Péré's culture-method. He also emphasizes that Friedlaender's bacillus does not form indol in pepton-solutions and that it ferments glycerin, while the Bacillus coli forms indol but does not alter glycerin.

The Influence of Cooling upon the Disposition to Infection

Dr. Emil Fischl (*Prag. med. Woch.*, XXII, 5, 1897; ref. *Schmidt's Jahrb.*, Bd. 254, p. 12) reduced the body-temperature of rabbits by about 10° C., according to the method of Wertheim and Walther, and then injected cultures of Fraenkel's Diplococcus pneumoniæ into the aural vein at the moment of lowest body-temperature. At the same time control-animals, whose temperature had not been lowered, were infected in exactly the same manner. The result was that the animals whose temperature had been reduced were less resistant to the infection than the control-animals; in other words, the bacteria more readily manifested their ill effects in the cooled than in the normal body. It was also shown that by virtue of the leucocytes the body possesses a powerful protective agent against the invasion of the pathogenic organisms introduced, for a decided increase of the white blood-corpuscles was noted in those control-animals which were saved, while in the cooled animals which died of the infection no pronounced leucocytosis was observed. The subsidence of the leucocytosis was synchronous with the disappearance of the bacteria from the blood.

Contribution to the Study of the Typhoid Bacillus

By the aid of Elsner's method, Remlinger and Schneider (*Ann. d. l'Inst. Pasteur*, XI, 1; ref. *Schmidt's Jahrb.*, Bd. 254, p. 16) succeeded in finding Eberth's bacillus in the earth, unsuspected drinking-water, and in the intestinal canal of healthy individuals. The researches were undertaken at a period when there was no local epidemic of typhoid fever. The bacteria obtained from these sources did not differ in form, culture, and biology from the bacilli derived from true typhoid dejecta. They were, however, less virulent, and their cultures remained unaffected by the addition of anti-typhoid serum. The authors believe that Eberth's bacillus, like many other bacteria, is to a certain degree ubiquitous, and that it occurs outside of the bodies of typhoid patients, in the drinking-water, in the soil, and in the digestive tract of healthy persons. Furthermore, in the latter location it can remain innocuous until an accidental weakening of the intestine or the appearance of other bacteria gives it the power to manifest its action.

Leucocytolysis

In a paper on the above subject, Dr. U. Tschistowitsch (*Russkij. Archiv. Patologii.* Vol. II, Nos. 5-6, 1897), concludes as follows:

1. In a drop of healthy blood kept at a temperature of 36 to 40° C., and prevented from evaporating, most leucocytes remain alive for more than 10 to 12 minutes; the large leucocytes manifest active ameboid movement, their protoplasm becomes transparent and less prominent. If the leucocytes are exposed to cold the protoplasm shrivels, the pseudopodia become contracted and the leucocytes assume a spherical form. The lymphocytes show an ameboid motion and therefore undergo less changes.

2. The transparency of the protoplasm of the leucocytes at a emperature of 36 to 40° C. is by no means a sign of degeneration, for this symptom may also be observed during the period of ameboid movement.

3. In normal human beings only very few leucocytes are destroyed; even at a dilution of the blood with a hundred times its quantity of a physiological salt solution, the author could find a loss not exceeding 34 per cent.

4. The degeneration of leucocytes may be observed in the blood of patients suffering from pneumonia or typhus abdominalis, in the former especially before the crisis.

5. The ameboid movement of the leucocytes may also be studied in the blood of rabbits; in the first twelve to eighteen minutes no destruction of the leucocytes is discernible.

6. From observations of leucocytes in a drop of blood outside the body it may be concluded that they present elements which are capable of resistance; that they undergo degeneration neither early nor rapidly, and that their momentary disappearance in experimental shock or by infection of various substances in the blood cannot be explained by the acceptance of Loewit's leucolysis.

O.

Bacteriological Examination of the Stools in Typhoid Fever, and its Value in Diagnosis

Dr. M. W. Richardson considers this subject in a paper read by title at the June 1 meeting of the Boston Society of Medical Science (*Jour. Bost. Soc. Med. Scien.*), and formulates the following conclusions:

I. The isolation of typhoid bacilli from the dejections of persons sick with typhoid fever is, in the great majority of cases, a practicable procedure.

II. With the appearance of convalescence the organisms disappear rapidly from the stools. They may persist, however, several weeks. This fact is important as regards disinfection.

III. The value of the serum-test in diagnosis is greater, in most cases, by reason of its earlier appearance, and the ease with which it can be carried out. In those cases, however, where the specific blood changes necessary for the serum-reaction do not appear till late in the disease—convalescence, or relapse—the bacteriological examination of the stools would be of great value.

IV. The results of Remlinger and Schneider, who declare the typhoid organism to be ubiquitous, could not be confirmed by the writer.

B.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.,
DAVID M. STÄBLER, M.D.

Antinosin in Gynecology

According to Dr. Rudolf Müller (*Aerzt. Rundsch.*, VII, p. 1), who has for some time been using antinosin in his gynecological practice, this remedy, in 2- to 2½-per-cent. solution, is a good, serviceable disinfectant not only in the minor gynecological details, but in delivery as well. Gonorrheal affections may be successfully treated, as well as the ordinary uses where disinfection is indicated, by even weaker solutions, such as for instance 5-1000. Solutions of antinosin of 2 or 2½ per cent. appear to be equal in value to solutions of corrosive sublimate 1-5000 or 1-1000, and the author is convinced that antinosin is a valuable addition to the list of remedies now used therapeutically. F.

Tannalbin Therapeutically

The valuable results obtained by numerous observers with tannalbin have induced Dr. Conrad Stein (*Wien. med. Presse*, XXXVIII, p. 686) to give the remedy a trial. He employed it in sixty-two cases, in both hospital and private practice. Of these, fifty-one were troubled with diarrhea due to various causes. The fifty-one cases comprised five cases of diarrhea due to acute enteritis; twenty-two of diarrhea due to subacute and chronic catarrh of both large and small intestines; twelve cases of diarrhea accompanying advanced phthisis; two of dysenterica epidemica; five of diarrhea accompanying hysteria, neurasthenia, Basedow's disease; two of dysentery due to intestinal dyspepsia; one of diarrhea following a serious septic process; one of profuse diarrhea of proctitis luetica, and one of diarrhea accompanying carcinoma of the sigmoid flexure. The usual single dose in these cases was 1 gme. (15 grn.), and the daily dose 3 to 8 gme., depending on the severity of the disease causing the diarrhea.

The conclusions drawn by the writer as a result of the use of tannalbin in these cases are, that the remedy may be accepted as exerting a sure and positive effect. He calls attention, also, to the rapid and sustained action had in all cases of acute and chronic enteritis, to the fine results in dysenteria epidemica, and to the unusually satisfactory action in the diarrhea of phthisis. In this affection tannalbin is unquestionably a valuable remedy of more value than as a simple palliative. The remedy was also found to act excellently as a styptic in entero-hemorrhagia.

The writer fully agrees with other observers as to the entire innocuousness of the remedy, no disagreeable by-effects, nor disturbances of digestion ever being observed. This latter fact is of special value, as it permits the remedy to be given in phthisis for a long time, which is not the case with the other remedies generally employed. It was also observed that, where tannalbin exerted any effect, doses of from 4 to 6 gme. (1 to 1½ dr.) were sufficient to produce the desired results; but where these doses had no effect, no increase of dose, even when persisted in for weeks, produced any action. As a rule, it was found that when no change followed the daily administration of from 4 to 6 gme. of tannalbin for a week, all further administration is useless; but where any effect at all, however slight, is obtained, patient persistence is surely attended with success.

Tannalbin was also tried in ten cases of subacute and chronic nephritis accompanied by severe albuminuria. In these cases the tannalbin caused a reduction of the quantity of albumin in the urine to a certain point, usually to 1 to 2 per cent.; but even continued use for weeks failed to cause any further reduction. F.

Euquinine versus Quinine

The action of euquinine as a febrifuge in various affections, such as pneumonia, pleurisy, pulmonary tuberculosis, influenza, abdominal typhus and erysipelas, and as an antineuralgic, roborant and antidyscratic, has been studied by Dr. M. Overlach (*Deutsche med. Z't'g.*, 1897, No. 15). As a febrifuge, the writer states that he has found euquinine to be equal in value to quinine and its salts, as far as promptness of beginning, duration, and intensity of effect are concerned, and that doses of one gramme yielded results equal in intensity to those obtained from an equal dose of quinine. Euquinine possesses, however, certain advantages over quinine, most prominent among which may be mentioned its well-nigh complete tastelessness, its freedom from any deleterious action on the stomach, even when given in small doses for extended periods, and the circumstance that it causes the train of cerebral eymptoms known as "quinine intoxication" decidedly less often than quinine does.

Euquinine has a very faintly bitter taste, just sufficient to render it an agreeable bitter tonic, even for children. Buzzing in the ears was at times observed, but its occurrence differed from that of quinine, by following only upon the first dose, or sometimes the second, and then disappearing on continued use; whereas that of quinine increases with each dose of the latter. This would tend to disprove that any cumulative effect is exerted by euquinine on the brain; and this remedy is therefore of value particularly where repeated large doses are indicated, as in malaria.

The writer also states that he employed the medicament in doses of from 0.1 to 0.25 gme. daily for weeks, in cases of anemia, chlorosis, complications of both these, and complications of abnormal blood-conditions. In these cases, an increase of appetite and remarkably rapid improvement in the general condition were observed, besides, in many cases, a noticeable increase of the hemoglobin-content of the blood.

F.

Bone-marrow and Bullock's Blood in Anemia

During the months of April, May, and June of the present year a number of exceedingly interesting clinical tests have been made in the New York Hospital for the Ruptured and Crippled with bone-marrow and Bullock's blood in the treatment of anemia in cases of tuberculous joint-diseases and osteomalacia. The observations were made by Charles H. Jaeger, M. D., the house-surgeon, under the service of Dr. V. P. Gibney, the surgeon-in-chief, and are reported in the *New York Medical Journal* (Vol. LXVI, No. 5, pp. 145-148). The combination used is known commercially as carnogen, and was given in two-dram doses twice daily. The author reports fourteen cases, seven being boys and seven girls, ranging in age from 4 to 16 years. Most of them had either right or left hip-disease, all were in bad condition, very anemic and the exhibition of iron, arsenic, strychnine and cod-liver oil failed to produce any apparent beneficial results. Every case showed decided improvement soon after being put on carnogen, "the children rapidly gaining in color and strength, and some considerably in weight." Dr. Jaeger is evidently highly gratified with its results, as is manifest by his introductions to most of his fourteen tables. We quote the following: "On April 6, 1897, carnogen was commenced and all other remedies excluded. Improvement was marked. Color returned, and weight increased rapidly." "Carnogen commenced on April 14. Improvement in blood and weight shown in the following table." "Carnogen and stomach-tonic given, with marked improvement in appetite and condition." "Improvement in color and weight was marked almost from the beginning of the treatment." "The administration of carnogen was begun, and was followed almost immediately by improvement in general condition and color. Eyes became brighter, and corpuscles, hemoglobin, and weight increased." "Color and general appearance improved. Increase in corpuscles, hemoglobin, and weight." "Able to to stand with brace; is also able to sit upright. General appearance much improved, color increased and stronger." These statements but confirm the results found by Dr. Pease, some time ago, in the St. Lawrence State Hospital in which seventeen insane patients were under observation with similar treatment. The changes reported as having occurred in the blood were quite remarkable. The following summary of the results, as shown by Dr. Jaeger's tables, is well worthy of careful study by those having anemic patients to treat:

No.	Date.	Weight.	Hemocytes.	Leucocytes.	Hemoglobin.
1	April 6..	51 lbs.	1,728,000	26,000	23 p. c.
	June 9..	63 lbs	4,550,000	17,000	47 p. c.
2	April 6..	28 lbs.	4.120,000	13,000	51 p. c.
	June 9..	Not taken	5.300,000	9.750	78 p. c.
3	April 6..	37 lbs.	3,640,000	22 500	33 p. c.
	June 10..	38 lbs.	4,550,000	22,000	47 p. c.
4	April 14.	58 lbs.	4,000.000	9,000	57 p. c.
	June 9..	64 lbs.	5,100,000	9 000	72 p. c.
5	April 14..	63 lbs.	4,640.000	23,000	59 p. c.
	June 9..	65 lbs.	5.170.000	10 570	73 p. c.
6	April 14 .	28 lbs.	3,800,000	Not taken	29 p. c.
	June 10..	20 lbs.	4,200,000	14,270	42 p c.
7	April 14..	31 lbs.	3,250,000	12.500	46 p. c.
	June 10..	36½ lbs.	4.790,000	13,000	64 p. c.
8	April 14..	51½ lbs.	4.860,000	11,500	54 p. c.
	June 10..	51½ lbs.	5,140.000	10,500	68 p. c.
9	April 6..	42½ lbs.	3.800,000	8,750	42 p. c.
	May 4..	Not taken	4,600,000	10,250	55 p. c.
10	April 6..	Not taken	4,900,000	7.500	60 p. c.
	June 9..	71 lbs.	5,500,000	11,000	87 p. c.
11	April 6..	48 lbs.	4,980,000	16.000	42 p. c.
	June 9.	45 lbs.	4,650,000	12,000	52 p. c.
12	April 6..	31 lbs.	4.200,000	11,250	43 p. c.
	June 9..	Not taken	5.200,000	11,500	56 p. c.
13	April 22..	40½ lbs.	4,810 000	11.250	70 p. c.
	June 9..	42½ lbs.	4.850,000	9,000	76 p. c.
14	April 6..	34½ lbs.	3.290,000	11 000	69 p. c.
	June 10 .	36 lbs.	5,210 000	11,750	91 p. c.

Piperidine Guaiacolate

Piperidine guaiacolate has been experimented with in the treatment of phthisis by Drs. Arnold Chaplin and F. W. Funncliffe (*Brit. Med. Jour.*, No. 1881, p. 136), who make the following statements regarding it:

Piperidine guaiacolate has been prepared by Dr. Schidrowitz, and is formed by the action of the piperidine on guaiacol in a suitable solvent such as benzine or petroleum ether. It crystallizes in prismatic needles or plates, and is soluble to the extent of 3.5 per cent. in water, and easily soluble in most organic solvents. It melts at 79.8° C, and is decomposed into its constituents by mineral acids and by alkalies.

In order to test efficiently the value of the drug, fourteen cases were chosen, more or less haphazard, some being early cases in which improvements might be expected under appropriate treatment, others being more advanced, while yet others were in such a stage as to make it improbable that much good from any form of treatment would accrue. In all cases the initial dose was 5 grn. three times a day, and this was gradually increased until 20, and in one case 25 grn. were given at a dose. No unpleasant effects were noticed. In no case were the processes of digestion interfered with. The cough appreciably improved and the expectoration, as a rule, decreased. The temperature in most cases receded to normal. The appetite, as a general thing, was maintained, and very often patients expressed the belief that the medicine improved it. Some patients gained in weight while the treatment was going on, and in two instances it was thought that more flesh was put on than would have been the case had ordinary remedies been tried.

The general conclusions arrived at were as follows: (1) Piperidine guaiacolate is a perfectly safe drug in doses from 5 to 30 grn. (0.3 to 4 gme.) three times a day. (2) It has no unpleasant effects. (3) It is exceedingly well borne by the stomach, and in this respect it is equal to any other derivative of creosote. (4) Patients while under its influence usually improved in appetite and general strength. F.

Lecithin

Lecithin (distearin-glycerin-phosphoric-acid-cholinether) is a white or yellowish, waxy mass, soluble in alcohol, in ether, and in chloroform. It swells up in contact with water or solutions of salt to a jelly, without, however, dissolving in these media.

As is well known, lecithin is the most important constituent of the nerve-tissue (brain-substances), contains phosphorus, and is even well distributed through the vegetable world.

Its therapeutic value has recently been studied by B. Danilewsky (*Compt. Rend.*, 1896, July 2), who states that the internal or subcutaneous administration of lecithin in young, warm-blooded animals (dogs) very greatly stimulates their growth, makes the blood better, and increases the quantity of brain-substance. Such dogs, too, were found to be very much livelier, intelligent, and physically stronger than the control-animals. The lecithin, whether given internally or subcutaneously, was used in the form of an emulsion with a physiological sodium-chloride solution. A quantity of this, representing 0.02 to 0.05 gme. lecithin, was injected subcutaneously or in the abdominal cavity. The dose was doubled when given internally. F.

Geosote Therapeutically

Geosote (guaiacol valerianate) has recently been experimented with by Dr. Wendt (*Deutsche med. Z't'g*, XVII, p. 1075), who gives the following observations as the result of its use in twenty-eight cases of tuberculosis, of which twenty-five were treated per os, one externally, and two both internally and externally:

Geosote is a pale-yellow, oily fluid, of 1.037 sp. gr., boiling at 245 to 265° C., very slightly soluble in acid or alkaline liquids and water, but soluble in all proportions in alcohol, ether, benzol, and chloroform. Its alcoholic solution has a yellow reaction with ferric chloride, chromic acid or potassium bichromate, remaining permanently so when acidulated with hydrochloric acid; and permanently green with copper sulphate and acidulation with hydrochloric acid.

It has a pyroligneous odor, a sweetish, transitory bitter taste, and it is rapidly absorbed by the skin without any symptoms of irritation being caused by it. Hypodermic injections of 1 or 2 gme. into healthy tissue cause a temporary burning.

It is best given internally in capsules containing 0.2 gme. each. Their administration in nowise affects the stomach, whether in single doses of 1 to 3 gme. taken fasting, or after months of use. Increase of appetite, digestive power, and strength has also been observed to follow its use, and several cases of acute gastric catarrh were cured in a few days by doses of 0.6 gme. per day. Acute intestinal catarrh required somewhat larger amounts, 1.2 to 1.8 gme. per day.

The use of geosote caused an almost entire suppression of cough-producing irritation, and oppressive feeling on the chest, within eight days. The sputa were forcibly and painlessly ejected, and were rapidly reduced in quantity, in a few cases even disappearing in two or three weeks. Even the night-sweats were rapidly reduced, as were also the sensitiveness of the skin and the liability to take cold.

According to the author's observations, geosote, on account of its power to prevent decomposition and fermentation, and to increase the appetite, and its entire non-poisonousness, is an excellent remedy in gastric and intestinal catarrhs, as well as in weakness and anemia. It is particularly valuable, however, in tuberculosis. Given in the above-mentioned doses for three to five months, it has in no case, even in the most sensitive of patients, caused the slightest harm, but on the contrary improved the general condition and strength of the organism. F.

Chinosol

Dr. Ostermann, of Hamburg (*Deutsche med. Z't'g*, XVIII, p. 5), states that besides its almost entire non-poisonousness, chinosol has excellent bactericidal powers, is easily soluble, and may be conveniently given in tablet form.

He has used it in 1 or 2-1000 solutions without any disagreeable by-effects, and has found such solutions very advantageous in parenchymatous hemorrhages of the inner cervical surfaces, as well as in lacerations of the vagina and perineum.

A weak solution is also admirable for the treatment of sewn wounds in childbed, since it is odorless, non-irritating, safe in the hands of attendants, and entirely prevents the decomposition of secretions. In gynecological practice chinosol may be made into tablets each sufficient to make a 0.25 to 2-1000 solution for astringent vaginal douches, particularly in chronic catarrh of an infectious nature. Chinosol gauze has also been used by the author for packing the cavities of abscesses after incision and cleansing, as in bartholinitis. F.

Calcium Permanganate

This salt, that had heretofore only been employed for the purification of potable waters, has been the subject of investigation by a number of experimenters, and the results of their labors show that it has exceedingly powerful antiseptic powers, that may be very advantageously applied in practical medicine. According to Ch. Levassort (La Sterilisation practique en Chirurgie, Paris, 1896), it is admirable for sterilizing the hands of operators, and a 0.3 to 0.5 per thousand warm solution produces complete asepsis of the skin and the surface to be operated on. Instruments are not attacked by the solution when kept in it only for the length of time necessary for an operation and thoroughly dried afterward. In gynecological practice solutions of 0.15 to 0.3 per thousand are used in infectious vaginal processes and for intra-uterine injections. As a rule, even 0.04 per thousand solutions are sufficient; for urethral irrigation one of 0.2 per thousand is employed, and in conjunctivitis blenorrhoica one of 0.35 per thousand is used as a wash four times daily, in quantities of 1½ liters to begin with, and later on three, then two times daily.

According to Féré (*Bul. de la Soc. de Biol.*, 1896, XVII, January), bromine acne (though not iodine eruptions) can be favorably influenced by an intestinal-antisepsis treatment. Both eruptions, however, may be successfully treated with a 0.04 per thousand solution of the calcium permanganate, as also may bromidrosis pedum by a warm 0.35 gme. per liter solution.

In dental practice Köhler, of Darmstadt, employs calcium-permanganate solutions for cleaning ill-cared-for, fetid mouths before treatment, and for rinsing the mouth after extraction, with excellent results.

A 0.2-per-cent. solution of calcium permanganate has of late been brought into the market under the name of monol. This solution is especially intended for the purification of potable waters. F.

Quinine Chlorhydrophosphate

This remedy has recently been employed by Z. Jodkiewicz (*Pharm. Zeit.*, XLII, p. 34) in malaria and nervous headaches with excellent results. The salt occurs in the form of crystals having a bitter taste, and soluble in two parts of water. Quinine chlorhydrophosphate has an acid reaction, contains 8.79 per cent. water, 6.01 per cent. hydrochloric acid, 32.04 per cent. phosphoric acid, and over 50 per cent. of quinine. F.

Eucalypteol

Eucalypteol is a crystalline substance first obtained by Anthoine from the ethereal oil of eucalyptus (*Deutsch. med. Woch.*, XXIII., p. 32). This substance possesses all the value of the ethereal oil without any of its drawbacks. It does not irritate the stomach, and is absolutely non-poisonous. It is strongly antiseptic, and, on account of its non-poisonousness, may be employed for internal antisepsis. It is eliminated in the air expired, as well as by the mucous membranes of the respiratory and digestive organs, the urinary tracts, and also in the secretions and excretions.

In tuberculosis it checks the inflammation and the secretions of the bronchial mucous membranes, so that coughs, dyspnea, night-sweats, and fever, are stopped. Even the fetor of the breath and expectorations are reduced by it. In bronchitis, even the acute, it is calmative and induces a rapid cure. If it is used in influenza, as soon as the first symptoms set in, it is a most certain remedy. The daily dose is about from 1.5 to 2 gme. F.

Creolin as a Prophylactic

L. Van, V. S. (*Berl. Thierärzt Woch.*, No. 43, p. 507, 1896), has paid special attention to the prevention of the occurrence of tetanus in consequence of the frequent picking up of nails. He states that of between 200 and 300 such cases treated yearly by him, he has had but one in which the tetanus occurring could be traceable to the picked-up nail.

Even in other wounds, such as contusions, etc., his treatment is productive of excellent results, but one case of tetanus having been encountered.

The author's method of treatment consists in first freeing the hoof thoroughly from all dirt, removing the dead horny substance, and paring the sole down as smoothly as possible. The wound is then made antiseptic by a long-continued irrigation with corrosive-sublimate solution, and this is best accomplished by means of a syringe, over the tip of which is slipped a rubber tube, ending in a silver cannula, which is inserted into the wound.

After disinfection, the wound is treated with a 5-per-cent. solution of iodine in glycerin, and then covered with a bandage that has been impregnated with pure creolin, and kept in place by suitable means. When the hoof-joint and tendon are wounded, the iodine treatment is omitted. Other wounds, such as bruises, and particularly those of the limbs, are also frequently painted with the iodine-solution. Even in castration, which is frequently associated with tetanus, the antiseptic treatment has yielded the author excellent results, not one case of the disease having been encountered.

Digitoxin Therapeutically

Experiments made during the past year have shown that of all the remedies heretofore used as a substitute for infusion of digitalis leaves, the one that most closely resembles it in therapeutic value is crystallized digitoxin Merck. These experiments were conducted by Aubel and Masius, who obtained rapid effects on the heart without encountering any disagreeable by-effects or difficulty in dosage, as well as by Wenzel and Unverricht, the latter of whom used it per os, in clysma, and also subcutaneously, without noticing any disagreeable by-effects. These results are confirmed by Prof. von Starck (*Münch. med. Woch.*, XLIX, p. 87), who employed crystallized digitoxin Merck in fourteen cases (ten of valvular lesions, two of myocarditis, one of fatty heart, and one of arterial sclerosis with cirrhotic kidney), in which the remedy was given exclusively in the form of tablets. These were in every case well borne, and gastric irritation occurred in but few cases, and was so unimportant as to require no other form of administration.

As a rule doses of 0.0025 mg. twice daily were given, ten such doses being usually sufficient to produce the desired effect. In conclusion, the writer states that crystallized digitoxin Merck can in many cases advantageously replace digitalis leaves, but that its use requires considerable care, and that an accurate control of the pulse is necessary. F.

Cuprohemol

The value of copper in diphtheria has been shown by Beitter (*Janus* 1896, Sept. and Oct.). More recently G. Scarpinato (*Arch. di. Farmae. e Terapeut.*, 1895, p. 557) has carried out a few investigations that went to show that it rapidly and markedly increases the quantity of hemoglobin in the blood besides increasing the bodily weight.

Brandl made a study of cuprohemol, and reports that this combination yields up but very little of its copper, only about 1 per cent. of the combined copper being absorbed from it, and therefore considers this preparation to be quite harmless. The active dose of the preparation is about 0.5 gme. per day, given preferably in two doses, at meal-time.

Ichthyol in Conjunctivitis

The excellent results obtained by means of ichthyol in various eye-diseases by other observers, led Dr. A. Peters to an extended trial of the remedy in his practice, and with brilliant results in many cases. He applied it as well in simple conjunctival catarrh unaccompanied by eczema of the skin, of which thirty cases were treated. Among these there were a few chronic cases, that had spontaneously improved, and then relapsed, besides others that had already been treated, or had undergone no treatment at all. The results obtained in all cases were such as to place ichthyol as a remedy in these affections far ahead of silver nitrate and other medicaments. In every case a single application sufficed to induce a clearly visible, mostly spontaneous alleviation of the trouble, and, by the continued treatment during at most fourteen days, a complete cure, that is to say, suppression of all subjective and objective symptoms.

REVIEWS

Hysteria and Certain Allied Conditions: Their nature and treatment with special reference to the application of the Rest Cure, Massage, Electrotherapy, Hypnotism, etc., by George J. Preston, M. D., Professor of Diseases of the Nervous System, College of Physicians and Surgeons, Baltimore; Visiting Physician to the City Hospital; Consulting Neurologist to the Bay View Asylum, The Hebrew Hospital, The Church Home and Infirmary, etc.; Member of the Medical and Clinical Faculty of Maryland, The American Neurological Association, etc. (Illustrated.) P. Blakiston, Son & Co., 1012 Walnut Street, Philadelphia, Pa. 1897. Price $2.

This not only interesting, but also instructive and scientific work is most heartily commended to the student and general practitioner of medicine and surgery. It is divided into eleven chapters, fully illustrated, each chapter of which is elaborately, vividly, and scholarly written. The illustrations are the beautiful drawings of Richter, together with diagrams from the works of Gilles de la Tourette, and others from Charcot.

Chapter I affords a retrospect of the history of hysteria. Descriptions of epidemics of hysteria are recorded by Hippocrates, "De Virginibus et Prognostica;" Sydenham quotes a letter from Democritus to Hippocrates relative to hysteria; Aretæus describes many of the characteristic symptoms.

Chapter II deals with the nature of hysteria, its etiology and pathology, citing the ancient Hippocratic or Galenic theories, and concluding with the most modern and scientific ones. "Hippocrates and Galen were inclined to believe that hysteria was more common after puberty, because the womb became lighter. Some authors claim that certain diatheses were favorable to the development of hysteria (Grasset)."

Chapter III conveys us through the symptomatology of hysteria and is classified under the following headings.

(1) Disturbances of sensation—anesthesia, paresthesia, hyperesthesia, affecting both general sensibility and also the special senses.

(2) Disturbances of motion—paralysis, contractures, tremor, convulsive seizures.

(3) Vasomotor, visceral and nutritive disturbances.

(4) Mental symptoms.

(5) Miscellaneous symptoms that do not belong to any of the foregoing classes.

Chapters IV, V, VI, and VII describe in detail, the various headings set forth above. Let it suffice when I state that the descriptions of the many and varied symptoms, throughout the preceding chapters are indeed a painstaking and meritorious effort.

Chapter VIII is given to the "Differential Diagnosis" and is well written. Chapter IX essays a lucid deduction of the treatment of hysteria.

Chapters X and XI cover in detail the most important and valuable articles in the book: Electrotherapy, hydrotherapy, massage, concluding with the rest-cure, hypnotism and surgical interference in the treatment of hysteria.

◆

The London *Lancet* deplores the fact that with all the outlay on sanitation diphtheria steadily goes on increasing.

CORRESPONDENCE

Homeopaths and Regulars

To the Editor of the A. M.-S. BULLETIN:

Dear Sir—I can hardly allow your editorial in the August 10th number, on "A Lesson the Public Needs," to pass without a little comment.

Having been a subscriber for several years, indeed since the commencement of your journal, I feel that I am entitled to a few words, at least. I am one of those "homeopaths" whom you, in common with nearly all "regulars," never weary of heaping contempt upon, and stigmatizing as ignorant and unprincipled frauds, notwithstanding that we, like a large proportion of those who practice under the name of homeopathy, are graduates of some of your best colleges, as well as of our own, and are quite as capable in every department of medicine and surgery as are any of your school. So far as character and success are concerned we are quite content to let the most intelligent people anywhere be the judges. The crime of which we are guilty consists in claiming that there is a *law* which guides us in the selection of our remedies whereas you insist there is no law and base your practice entirely upon Empiricism. Because we say there is a law you insist that we are "creed-bound" and must by no means use any other measures but such as fall within this law, and if we repudiate that assumption as we all (or nearly all) do, you immediately declare we are no homeopaths and are sailing under false colors. You ask, "why could not Hahnemann and his followers have remained in the ranks of regular practitioners," etc.? If you knew one iota of the medical history of those days you would know it was because as soon as he announced his discovery he was ostracized and persecuted out of his home and country, as Martin Luther was by the Romish Church, and as every one who accepts the law of "similia" would be today had your school the power.

An editorial by your predecessor in office very candidly said (some two or three years ago) that the homeopaths should never have been a distinct school and never would have been had they been treated liberally and tolerantly as scientific men should always be treated by their fellows. I feel inclined to discuss many of the statements of your article, which is throughout characterized by the same ignorance and misrepresentation which generally characterize whatever statements are made by your school concerning homeopathy. If you would take the trouble to inform yourselves about the facts a little before making such statements you would be much more likely to impress the public with the idea that the "regulars" are the only educated and honest men in the profession. However, I am well aware that I am wasting ink and paper in what I have already written. Allow me to assure you, however, that all your assertions will never convince the public that they are facts, even though no one shall take the trouble to contradict them. The only result I can see will be to disgust many of your subscribers who know the truth, and very likely induce them to read other journals which are wise enough not to insult those who give them their support.

Yours very truly,

A. G. BEEBE, A. M., M. D.,
Professor of Clinical and Operative Surgery,
Chic. Homeo. Med. Col.

[See Editorial Notes for an answer to Prof. Beebe.—Ed.]

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EDITOR'S NOTES

Of making medical journals there is no end, in this country. Three new ones have been placed upon our desk within a few days. The *American Journal of Dermatology and Genito-Urinary Diseases* is published in St. Louis, Mo., by Dr. S. C. Martin. In its second number the editor claims to be mailing 25,000 copies, and while he does not say that all these go to subscribers, we judge from what is said that a goodly number do. We congratulate the young journal on such good fortune and commend its contents for merit. The *Georgia Journal of Medicine and Surgery* is published in Savannah, Ga., by Drs. St. J. B. Graham, D. E. Dudley, and W. E. Fitch. It aims at being the representative medical journal of the South and West. The first number gives a large amount of interesting and valuable material, and as it is given as a sample of what is to follow, its readers will no doubt always find it of great service to them in their practice. The third of the new applicants for favor among medical men is the *Medical and Surgical Bulletin*, of Nashville, Tenn. Dr. M. C. McGannon is the editor and Dr. P. Clements business manager. It is the official organ of the Alumni Association of the Medical Department of the University of Nashville. The number before us reflects great credit on the editor. We anticipate some confusion from the name, as our BULLETIN has many times been quoted from and credited as the "*Medical and Surgical Bulletin.*" This mistake has been made both by American and European editors. We know from experience how easy it is to confuse the names of journals. No longer ago than August 10 we undertook to say a word of praise for the New Orleans *Medical and Surgical Journal* on reaching its fiftieth anniversary, and our pen somehow wrote it down as the *Medical and Surgical Reporter*. We wish all of these new ventures the best of good luck in the field of medical journalism.

We note with considerable satisfaction that Judge Thompson, of Kentucky, in his opinion of the Axtel Osteopath case, decided it against Axtel on the ground that osteopathy, according to the interpretation of the osteopaths, is really a branch of regular medicine. Axtel's attorney put up the claim that his client did not practice medicine within the meaning of the law, because he gave no drugs and performed no surgical operations. Now, let Axtel and all of his school acquire a proper education in a college up to the proper standard, and the laws of no State will interfere with them. They would still be dangerous, even if educated, while following such a fad, but they would be so much less so than now that they could be tolerated. All classes of medical men have faddists among them. No one can, therefore, be stopped from practising because of a fad without checking the trial of new things, and so doing more harm than could be done by the evil complained of.

Professor A. G. Beebe, of the Chicago Homeopathic Medical College, has an interesting letter in our correspondence column that we ask our readers to scan critically, and if he is justified in his charges against us we should like to know it. We are glad to receive criticisms from such men, but we like to have them just. We always state what we believe to be facts, and are always open for correction if wrong. We think that Prof. Beebe is oversensitive and the attitude he assumes intolerant. To feel insulted at an honest statement of opinion does not appear to us compatible with the spirit of science. It smacks too much of last-century methods. We answer his strictures seriatim. (a) We have never heaped contempt upon or stigmatized homeopaths as he claims we did. We personally know better, and it would be dishonest for us to do so. (b) We claim that there is a law governing the action of drugs in the human body. (c) We should like proof of the claim that any intelligent regular ever denied the reign of law there or denounced homeopaths on any such ground. (c) Regulars do not base their practice "entirely on empiricism." (d) Intolerance in the time of Hahnemann was the rule. In spite of this we are certain that he could have avoided creating a schism if he had sincerely desired to do so. (e) If this is, as the professor says, "ignorance and misrepresentation," we are perfectly willing to have him instruct us if he will supply undeniable facts, and then we may be able to avoid misrepresenting. (f) We can assure the professor that if he is able and willing to substantiate with evidence the statements that he has made that he has wasted neither ink nor paper. (g) Mere assertions of ours, no more than those of his, can never convince anybody. It is facts that convince. If we misrepresent facts, then as an honest man he should be willing to correct them, since we are willing that he shall. (h) If any of our subscribers are disgusted with our honest intentions to get at truth and dislike our candor, then we can only express our sorrow at what we consider bad judgment on their part. (i) The BULLETIN, so far from intending to give offence to anyone, would prefer to go out of its way to placate and please, but it cannot swerve from its determination to be honest and just, irrespective of consequences. (j) We hope to hear from Prof. Beebe again, as we are particularly anxious to receive criticisms from such able and representative men outside our own ranks, but we sincerely desire to have him distinguish between a defence of a principle and anything so personal as an insult.

PUBLISHERS' DEPARTMENT

TENIDE IN DIABETES

This is a preparation of vegetable origin for the treatment of diabetes. It is prepared for the exclusive use of physicians. Its value has been conclusively demonstrated in many important cases, as the many valuable testimonials in the possession of the proprietors show.

Experiments in which a strict diet was followed, without using tenide, showed in the majority of cases an increase of sugar in a short time. By the use of tenide also the quantity of urine was greatly reduced, the abnormal thirst relieved within a few days, and in the course of a fortnight, entirely passed away.

As tenide can now be obtained by every druggist, it will not be necessary for physicians to delay treatment of their patients for diabetes. They can easily note improvements made by its use, and will find it a great source of gratification to record the rapid decrease in the loss of sugar during the first month's treatment.

Every physician replying to the advertisement is furnished with a formula showing the component parts of this remedy, and it can thus be tested and its value proved.

ANTI-DIPHTHERITIC SERUM

Parke, Davis & Company have long been in a position to supply every strength of anti-diphtheritic serum from 250 to 2000 units. Their serum is rigorously tested and has a slight excess of antitoxic power to make good the loss of strength resulting from age. The containers are hermetically sealed, not ordinary vials and corks. The manufacturers will supply a file of antitoxin literature which includes interesting reports from hospital, municipal, and private practice.

EGG EMULSION OF COD-LIVER OIL

Frank Webster Jay, M.D., Instructor in Surgery Rush Medical College, and Attending Surgeon Lakeside Hospital, Chicago, in a recent article in the *Journal of the American Medical Association*, states:

"The best and purest oil should be obtained. . . . The product which has given entire satisfaction in my practice, and to which I pin my confidence is the Egg Emulsion of Cod-Liver Oil (P. D. & Co.). This product does not deteriorate, is most satisfactory in taste and flavor, and contains, by volume, full 40 per cent. of the entire oil. The absence of gum arabic, Irish moss, or the other emulsifying agents commonly used, is assuredly not the least of its advantages."

UNGUENTINE FOR BURNS

Dr. A. F. Beddoe, physician to the Buckner Orphan's Home near Dallas, Texas, read a paper before the Dallas Medical and Surgical Association in which he reports eight cases, most of them burns of the third degree, successfully treated with Unguentine; no other dressing was used, and in all cases the healing was rapid, and in some no scar was left, while in others the scar was less than one-half the size that would be expected.

UNGUENTUM RESINOL

A Macon, Ga., physician writes:

"I have prescribed unguentum resinol in cases of eczema capitis, eczema facialis and seborrhea with the happiest results. Again in pruritus ani, its prompt and effective action was quite pleasing to my patient and satisfactory to me. I can commend its use to physicians in such cases, and am sure it will retain a permanent place amongst the best remedial agents of its class."

OF GENERAL INTEREST

An interesting 8-page pamphlet covering very many points of interest in relation to the antitoxin treatment of diphtheria has just been issued by H. K. Mulford Co., Philadelphia. It is arranged in quiz form, and the questions embrace nearly every phase of antitoxin treatment and the nature and production of the remedy. The answers are terse and to the point. Leading authorities are quoted. It will materially widen and deepen the average physician's conception of the value of the treatment. It will be sent free, upon receipt of request.

NEWS

St. Luke's Hospital of Jacksonville, Fla., is talking about charging fifty cents per day from every patient.

A Covington, Ky., doctor has been arrested for failing to report a case of diphtheria. He alleges the case is one of membranous croup.

Smallpox has invaded Montreal. and caused the Board of Health to divide the city into twenty-four districts, and have house-to house vaccination.

A hot battle is waging in San Francisco, Cal., over an attempt to affiliate the Hahnemann Medical College with the Medical College of the University.

Police Prosecutor O'Hara, of Toledo, Ohio. says that the Health Board of that city is without any power whatever, there being no laws to sustain them in their acts.

The Volunteer Medical Association. of London, offer what they call a challenge shield, valued at $1000, for the best display of skill in the various first-aid-to-the-injured drills.

Dr. Gibier, of the Pasteur Institute, has been in Paris studying consumption. and promises through the New York *World*, that he will shortly make his mode of treatment public.

The employment of untaught, untrained, and incapable paupers as nurses in the workhouse infirmaries of England, has been prohibited by an order issued by the Local Government Board.

Huie Pock and Ah Kong, both Chinamen, were recently found guilty of practicing medicine illegally in Butte, Montana. The first mentioned was fined $500 and costs, while Kong was mulcted $100. Both gave notice of appeal.

The Indiana Medical Board has confessed error in refusing the diplomas of the University of Illinois at Urbana. They did not know that it was the College of Physicians and Surgeons of Chicago, that they were thus discriminating against.

The McKean County Medical Association of Bradford. Pa., has lately been giving the quacks a lively dance. A magnetic healer named "Dr. Tritz," lately had to pay $60.00 and leave the county. They are now after an Indian called "Rolling Thunder."

The Cincinnati, Ohio, *Enquirer* of August 28, charges the State Medical Board of Registration and Examination with being overawed by political influence, and refusing to do its duty in revoking a license granted to a well-known Cincinnati physician who had no right to it.

Bellevue Medical College is to have a new building. The plans recently filed call for a five-story structure. to be erected on a plot 73.5 by 75.2, to occupy the southwest corner of First avenue and Twenty-sixth street, adjoining the Carnegie Laboratory. The new building will cost about $95,000.

The Executive Committee of the American Victoria Jubilee fund report having received $21,500. Her Majesty, through Sir Fleetwood Edwards, thanks the committee for the kindness thus evinced. and she is happy to think that it is to be used for so good a purpose as in the endowment of beds in London hospitals.

We learn that the members and delegates of the International Medical Congress are arriving in large numbers in Moscow. At the good hotels the rooms are all taken, and many are falling back upon apartments. for which, however, the prices are going up. The Russians are extending every civility to the visitors.

The National Convention of Health Officers held their last session in the senate chamber of the capitol at Nashville. Tenn., on August 20. Points of interest discussed during the meetings were how far mandatory measures should go in controlling contagious diseases, and improvements in methods of embalming, disinfecting, and transporting dead bodies.

The corporation of McGill University, Montreal, at a special meeting lately held in that city, recommended that the degree of LL.D. be conferred on Lord Lister, Sir William Turner. Sir Walter Foster, Professor Charles Richard, Professor Michael Foster, Dr. Henry Barnes, Dr. Christopher Heath, Dr. R. Soundby, Mr. Claud Wheelhouse, Dr. W. H. Gaskell and Professor Alexander MacAllister, all members of the British Medical Association.

In Tokio, Japan, Dr. Kitasato is in charge of an institute connected with the sanitary society of Japan for the study of infectious diseases. It contains laboratories for original research, where anti-diphtheritic serum, anti-cholera serum, typhoid and erysipelas serums are manufactured. A practical course in bacteriology is given to students. They have a studio for micro-photography equipped with Zeis' complete apparatus. The wards hold fifty patients, and only those suffering from contagious diseases are admitted, cholera and smallpox being excluded.

Health Commissioner Reynolds, of Chicago, has begun a campaign against the Chinese laundries, and justifies himself in the following manner:

"Just think of it. The underclothing and handkerchiefs of people who are affected with consumption, scarlet fever, diphtheria, small-pox, cutaneous eruptions, cancer, nasal catarrh, and several other fearful maladies, most of which have been shown to be germ diseases, and all of which may be, are thrown together in the same mass, soaked with water and then rubbed together, and then dried and redistributed among their owners, to be placed in contact with their skin, and even to be held to their noses and mouths in breathing. Could anything be more horrible to think of, and yet has anything been more completely neglected?

"You must not understand that I am an alarmist, because so far as we know, the danger from this direction is purely theoretical. I do not recall an instance in which anyone has reported that he actually knows he contracted disease by sending his clothing to a laundry. On the other hand, it may be that no such case has been reported because this point was not investigated, or because in the nature of the case it is almost impossible to prove the case.

"At any rate, I have made up my mind that the laundries of the city should be inspected. With the better class of them the inspection would be merely formal. One glance at their machinery would settle the question, so far as they are concerned.

"In the case of the cheaper laundries. and especially the Chinese laundries, a careful inquiry should be made. The Chinese laundries are liable to a special criticism. It is well-known that the Chinese laundryman sprinkles the clothing with his mouth. It is also a fact that nine-tenths of the Chinese in this country die of consumption. However, if any of their customers have contracted consumption in this way I'm not sure it is impossible to prove it."

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EDITORIAL

THE MONTREAL MEETING OF THE BRITISH MEDICAL ASSOCIATION

THE sixty-fourth annual meeting of the British Medical Association and its first meeting out of the British Isles is now a thing of the past. Over 800 members and guests registered, which, with a large number of visiting medical men who did not register, made a good attendance. If numbers alone could have created enthusiasm there would have been no lack of that desirable quality, but unfortunately it does not. The true source of enthusiasm at such gatherings of scientific men is able, clear-cut, truly original, and well-written papers that carry us farther into the heart of nature than we ever were before. There was a dearth, a painfully marked dearth, of such papers. In a society containing so many eminent men it is difficult to account for this. We expected that on account of their being from home they would bring along their best viands on which to feast their transatlantic friends. It now looks as if they thought that Americans could not tell good from bad provisions and that they would save their best goods till they returned home again. It is more easy to account for the inferior material supplied by our home talent. Our Congress of Physicians and Surgeons and our American Medical Association had within a very short time exhausted them of their best. Really good papers cannot be produced in less than a year, unless the material has all been pre-gathered and pre-arranged for the work. There were many well-written papers, but very few of them added anything to the sum total of human knowledge. All the really scientific work there presented bore an exceedingly small proportion to the total. The best British contributions to the advancement of medical science were evidently carried past Montreal to the Physiological Section of the British Association for the Advancement of Science at Toronto. The addresses were excellent from a literary standpoint, and if the Association had not claimed to be a distinctly scientific body they would have been above criticism. That of the President, Dr. T. G. Roddick, professor of surgery in McGill University, Montreal, began with a welcome to Canada of the Association, its illustrious members and guests, and a reference to the special addresses that were to follow. He then went on and gave a brief account of the objects and history of the Association, of the climatic conditions of Canada, of its spas and health-resorts, and ended with a somewhat longer account of medical education and medical legislation in Canada. There was no attempt to show what Canada had done for the advancement of medical knowledge, no summary of the progress of medical science made during the preceding year throughout the world, no setting forth of the particular work the Association had been doing, no mapping out of work for it to do in future, no suggestions for medical reform, no references to the great questions of the hour that are at present stirring the hearts and consciences of medical men throughout that Greater Britain of which he spoke, and no word to stimulate the efforts of men who are willing to neglect self-aggrandisement to discover truth for the use of their fellow practitioners. The kinship of Great Britain and her dependencies is a small affair as compared with the kinship that science should bring to the whole race. We can heartily say with him that "the fruits of such a gathering should be tangible, enduring—not ephemeral, nor for to-day, but for all time." The address on Medicine by Dr. William Osler, Professor of Medicine, Johns Hopkins University, Baltimore, was exceedingly interesting and well written. It shows the scholar and deep thinker on every line, and yet it falls considerably below what we believe Dr. Osler is capable of producing. Its statements are general where they should be particular and they lack that sharp continuity of thought that a scientific, as distinct from a literary dissertation, should possess. The Doctor is not at his best in it, and we believe this is due to lack of time rather than lack of inclination. We know it is not due to lack of ability. The title of his paper "British Medicine in Greater Britain," was well chosen for the occasion, and had he, instead of excusing himself from the task that he says would "require the hand of a master," undertaken to do that very work, the results would have been more like what we have come to expect from him. No one that we know of is better able to begin such a task and no one has greater opportunities to pursue it to a successful issue. The evolution of medicine from Galen and Hippocrates through Linacre and Sydenham up to the most recent steps taken, was a theme worthy of the time and place. Properly and successfully to pursue such a theme would cast a world of light on things medical that are now very obscure. It would necessitate the following of medical ideas and their changes from age to age, noting the causes of changes, seeing why and how one idea led to another, and tracing the lines along which fitness was preserved and unfitness extinguished. The medical history of principles rather than that of great medical men would have to be sought out. Heroes studied as heroes never give proper indications for the philosophic study of history. If merely considered as products of their times and studied as such they become valuable links in a chain of facts that lead truthward. The day when the study of the hero or the genius was considered the study of history is passing rapidly away. They are now only looked upon as the hands on the dial of a clock that are moved by forces behind them. Hippocrates was in himself nothing, only as he represented the thought of his age, and particularly that part of the thought that was destined to perpetuate itself through all time. In every thought of every age, however crude, there is a soul of truth destined to live as long as mind exists to grasp it. Just as an ameba contains potentially the highest possibilities of physiological development, even so the crude thought in the mind of a savage contains the possibilities of the highest philosophic thought. Since by following the lines of biological development we can see whither they are going, so also by following the lines of medical development we can see where their trend is. The light thus obtainable from the past when cast upon the vein of pure gold that we have been working, shows us the way that vein leads into the unseen. In old times and under old systems of reasoning, development was very slow. False trends of thought were then only checked by a process akin to natural selection, but since the advent of the inductive method a sort of artificial selection has taken its place, thus leading to much more rapid growth in the right direction.

THE INTERNATIONAL MEDICAL CONGRESS

THE twelfth International Medical Congress, which closed at Moscow, Russia, on August 26, was by all odds the most important meeting of medical men that has occurred this year, and perhaps the most important ever held. The character of the addresses stands out in bold contrast with most of those read at Montreal. Of course there was much chaff, even there, but if we can fairly judge from the reports of our foreign exchanges, it bore no such large proportion to the total. New and far-reaching principles were enunciated, experimental results were recited, unsuspected but important relations were revealed, and inductions of pre-eminent value were attempted. Even those addresses that dealt with hackneyed subjects, judging from those already published, had a freshness of logic thrown into the facts that made them temporarily interesting. At the opening of the meeting by his imperial highness the Grand-Duke Sergei Alexandrovitch, the Grand Theatre, one of the most capacious halls in the world, was crowded. It was announced by the Secretary-General at one of the sessions that over 7,300 medical men were there and registered during the week of the convention. The majority were Russians, but Austria sent 800, Germany 800, France 400, England 300, and the United States 120. The heat during most of the week kept many away from the meetings of the sections, and tended to unfit those who did attend from duly appreciating what they heard. The thermometer stood steadily above 88° F. in the shade. The English-speaking delegates, who did not understand Slav, French, or German found it difficult to read the official notices, none of which was in English. There was a contest between the French and the Spanish as to which should get the next Congress, but it was decided against Madrid and in favor of Paris. The first International Congress was held in Paris in 1867, during the first Paris Exhibition, and the thirteenth will be held there during the great exhibition of 1900. Professor Lannelongue, of Paris, is the new president, and Professor Chaufford, the Honorary Secretary-General. At the Moscow meeting a large number of foreigners were elected honorary presidents, and of these the United States had a fair share. Among those so honored were Dr. Clarke, of Cambridge; Dr. Thayer, of Baltimore; Dr. Senn, of Chicago, and Dr. Billings, of Washington, The address that awoke the largest amount of interest was that of Professor Rudolph Virchow, of Berlin, on "The Continuity of Life as the Basis of a Biological Theory." The press-reports of this oration that appeared in the daily papers in this country claimed that he had pointed out the road to possible human, mundane immortality. One New York paper undertook to substantiate this idea by reports of interviews with several medical men and a few well-known scientific men. Professor Virchow looked back to the cell as the basis of deformity and disease. These he claimed could not exist unless a living cell is by irritation compelled to proliferate. He asserted as his firm belief that the twentieth century would establish beyond possible dispute the continuity of life. All life to him is the same in kind whether that of a man, a monkey, or a worm, and it is all but branches of a common stem. Every bit of life on the planet he held was akin by generation to every other bit. The theory of the continuity of life, he said, must now be an article of faith. It is impossible in a brief review to go over the many excellent ideas advanced, and the attempt to epitomize them gives but a meagre and very imperfect idea of the author's meaning. Some of the conclusions, however, are well worth remembering. Prof. Krafft-Ebing, of Vienna, in tracing the etiology of progress in paralysis, said that syphilis is almost always the cause of this disease. Prof. Metchnikoff closed an address on the Plague by assuring his listeners that science, so far from being indifferent to the sufferings of the weakly in the battle of life, as had been asserted, was in fact the only power that could and did protect them in the battle, as witness the most recent brilliant discoveries in medicine. Prof. Lannelong referred to the curability of tubercular lesions, but he held that the goal cannot be completely reached until we learn how to paralyze the fertility of the specific bacillus, and make it incapable of doing harm. He says that there is no immunity conferred by a first attack, and he doubts whether there is an antitoxin. Prof. Lewaschev, of Kazan, in his paper on Diabetes, showed that jambul is superior to all other known remedies in this disease. Prof. Celli, of Rome, endeavored to prove that different forms of malaria are caused by different species of plasmodium. Sir Dyce Duckworth, of London, called attention to some cases that prove that life can persist for some hours in the absence of all breathing. Dr. Pujador y Fauva, of Barcelona, recommended the treatment of scarlet fever with turpentine, hypodermically given. He claims that it shortens the attack and prevents nephritis. Prof. Victor C. Vaughan showed how, by the bacteriological test applied to drinking-water, he had been able in every instance to check epidemics of typhoid fever by condemning the source of the samples that contained the typhoid germs. Prof. E. Nocard, of Alfort, showed that the antitoxic serum of tetanus is only of use when given before the disease has fully declared itself. The dose need not be so large to abort an attack if given as soon as the injury occurs that is likely to produce the disease. The longer the time from the injury the larger the dose needed. Dr. J. F. Sutherland, deputy commissioner in lunacy for Scotland, claimed that the toxic action of alcohol on the brain produces a state exactly the same as insanity. He holds that drunkards should be treated the same by the criminal code as by the civil, and held irresponsible for their deeds. Prof. Tarnowsky and Dr. Jakowleff, of St. Petersburg, proved by their experiments that serum from mercurialized colts is useless in treating syphilis. Prof. Lepine, of Lyons, read an able paper on the "Genesis of the Different Varieties of Diabetes Mellitis." He holds that this disease has many, and not one cause, as has been supposed. Prof. Ewald, of Berlin, and Dr. Gley, of Paris, had valuable papers on the thyroid gland and myxedema, that threw new light on the function of the gland and its power to produce a substance having curative power over the latter. They concluded that our knowledge of this subject was yet very fragmentary. Dr. Charrin, of Paris, read a paper on "The Essential Causes of Chlorosis," in which he took the ground that it is due to intoxication caused by imperfect carrying off of some constituent of the menstrual discharge. Dr. Tuffier, of Paris, read a long and valuable paper on surgery of the lung. He had fifty-five recoveries out of sixty-one pneumotomies, the majority of which were performed for suppurating cysts. A mere list of all the good papers presented would take more room than can be spared.

AMONG THE EDITORS

WHAT IS REQUIRED

Resources are what count in the practice of medicine to-day. The man or woman who is fertile in resources in a pinch, who is quick to act and prompt to take advantage of conditions, is the one who will have the practice.

To act, that is the thing, and whether you know or do not know, to keep cool and do the best possible.

Strange as it may seem, even the youngest of us is supposed to be well-nigh infallible when in the sick-room. But to keep confidence we must act—do something—if it is only administering a placebo. This trait, for it is that, if we do not have it, may be acquired. Better make a mistake through overexertion than through inaction. A young man asked one day how to gain the confidence of his patients. It may all be summed up in the one word—Act!—*Woman's Medical Journal.*

NEW RESPONSIBILITIES

With every advance in medical science the duties and responsibilities of the physician become more and more grave and exacting, and if he be conscientiously laboring for the highest good of his patients, he must suffer much from doubt and perplexity as to the best course to be followed in the management of disease. Shall he use antitoxin in diphtheria? He knows that the remedy is not without danger to the patient, and that even when prepared by the best manufacturers, placed in the most skillful hands and used with the utmost care, it has caused death when there was no disease to account for the fatality. Shall he adhere to the expectant method of dealing with typhoid fever? He knows that the average duration of illness of patients which are treated "expectantly" is six weeks or more, and more than 17 per cent. of such patients die. Shall he apply the Brand method? He has the word of able teachers that it has lowered the death-rate from the disease, but its strongest advocates call it "brutal," and admit that it does not shorten the course of the fever; that it is cumbersome; that it does not diminish the danger of relapses, and that it has caused death. Yet it has many distinguished followers—one reason for which may be the prompt temporary relief of alarming symptoms and this apparent benefit to the patient may have aroused an enthusiasm that has distorted the judgment of careful observers.

Hence the physician who is primarily responsible for every life that is entrusted to his care must avoid being misled by specious argument. It is his solemn duty to adopt that method of dealing with disease which will, in his opinion, give the lowest death-rate, the shortest duration of illness, and will minimize the impairment of the constitution, and most quickly restore the patient to vigorous and robust manhood.—*The Charlotte Med. Jour.*

A NEW DISPENSARY ABUSE

A report comes to us as we are about to go to press (as the *County Weekly* puts it) to the effect that a physician has been dismissed from one of the most fashionable dispensaries in a neighboring city (of course it could not occur in New York) for abstracting a fifty-dollar banknote from the purse of a patient.

The pocketbook was left upon the dispensary desk, it is said, while the lady entered an adjoining room to prepare for examination. The plea made to the governing board by the physician was that he had been overworked, having treated over four hundred patients at the dispensary during the three days preceding the temptation which caused his fall, and that during this time he had been unable to procure but one full meal. Hunger and the means at hand to appease it may have proven too strong a combination for his overwrought nerves, but this naturally did not weight with the board. The *clientèle* of the institution must be made to feel that while a patron is undergoing treatment his valuables are safe. The argument was used by one of the governors that, if the patients' money is to be taken from them, they might as well go to a physician's office and be done with it.

The crime of robbing a dispensary patient cannot be too severely punished, since such acts would soon deter many persons of wealth from patronizing these institutions. It is therefore most fitting that the culprit in the present instance will be forced to take his chances for the future in private practice.

There is something to be said on the other side. It seems unwise for applicants to carry with them and display at the dispensary large sums of money, diamonds, and the like. It would surely seem to be in the nature of contributory negligence if in the future applicants for free treatment put temptation in the way of doctors, who after all are only human and often hungry.—*Medical Record.*

VERMINOUS PERSONS

The House of Commons has lately been dealing somewhat playfully with a bill for the relief of "Verminous Persons," by which it was proposed to give power to local authorities to take measures for the relief of those who were thus afflicted, but with the fatal defect that no fund was indicated from which the necessary expenditure might be defrayed. The truth is that a well-considered measure of the kind proposed, especially if it dealt with dwellings as well as with persons, would add greatly to the comfort of a considerable section of the poorest classes of the metropolis and other great centers of population. The tenements inhabited by these classes swarm with vermin to an extent which those who have not inspected them could scarcely credit, and the tenants suffer from loss of rest in a corresponding degree. Scores or hundreds of men may be seen, on every fine and warm day, sleeping on the grass in the London parks; and these, or at least a large proportion of them, are persons who cannot sleep at night in their own lodgings for bugs. The chinks of the woodwork in their rooms are often literally choked with bugs, and any clean furniture brought into such places would be invaded before it had rested in them many hours. The skin-diseases treated in the metropolitan hospitals are greatly aggravated by lice in the clothes and on the persons of the sufferers; and in the skin department of University College Hospital, as well, probably, as in others, an important part of the treatment consists in sending the clothes of the out-patients to be baked during the time when the wearers themselves are having baths, which, in whatever other way they may be medicated, are at least insecticidal. Such treatment, if we may use the term, seems to be somewhat beneath the dignity of a hospital, and certainly ought not to require the intervention of an out-patient department before it can be applied. We are not fond of the invocation of Hercules, nor of calling in the aid of the State to do for any class of people things which they ought to do for themselves; but we think there can be no doubt that the destruction of vermin is commonly beyond the powers of those who suffer from them. The man or woman who has no change of clothing is absolutely helpless against the pests by which he or she is practically certain to be infested; and, even where a change can be procured, the means of destroying vermin are usually quite beyond the reach of the wearer, unless provided by charity. A proper oven is required for clothing, with a power of estimating the degree of heat which is applied; while the domestic vermin, as distinguished from the personal, require even more expensive treatment.—*The Hospital.*

INSANITY AND INEBRIETY

The fact is startling that insanity has increased in proportion to the population over 100 per cent. from 1870 to 1890. The feeble-minded, idiots, and epileptics have also increased. Inebriety as a disease has come into more and more prominence during the last quarter of a century, but whether inebriety has increased in anything like the same ratio as insanity is not certain. The opinion is sustained by strong evidence, that inebriety in modern times is obscure insanity. It is certain that many cases of inebriety become insane, and an equal number are classed with the insane in statistics. A certain number of cases of insanity have an early stage of excessive drinking, and a number of insane persons will turn to spirits for relief and become inebriates. A number of cases become insane when the alcohol is withdrawn, and a number alternate between excessive use of spirits, and strange erratic conduct, for which the term insane is the best description.

The intimacy of these two so-called diseases suggests that the increase of insanity is due largely to inebriety, the latter being unrecognized as a distinct disease.

The statistics of all insane asylums recognize alcohol as a cause of insanity, varying from 5 to 20 per cent. A study of cases indicates a much larger number whose first sign of mental defect was the use of alcohol. After a period of excess some form of well-marked insanity appears, and the use of spirits is not regarded of interest in the history. The recognition and treatment are surrounded with great difficulties. Most cases are not treated in the early curable stage, and, on the subsidence of the acute symptoms, they are often discharged as cured. The inebriate is never recognized as requiring physical treatment until the case has reached incurable stages, and then the treatment is largely moral and empirical.

Heredity is not recognized and the evils of both insanity and inebriety are permitted to go on unrestrained to succeeding generations.—*Quarterly Jour. of Inebriety.*

THE ILLICIT STILL

The organized attempt which is being made to capture this State for osteopathy is likely to furnish one more interesting chapter in the history of the rise and fall of quack systems of medicine. The Napoleonic method of warfare has been adopted, and the vast army of osteopaths is to move on one State after the other, until the name physician shall be synonymous with bone-manipulator from Maine to California. In pursuance of this programme a so-called *Journal of Osteopathy* has been sent to practically every business man in this part of the State. A close perusal of this document fails to show a single paper with any bearing on medical science, either osteopathic or otherwise, except one. This article deals with urinary analysis, and is a statement of well-known facts, which may be found in any good text-book on that subject and extracted from the same for osteopathic or other journalism. Every other article follows strictly the methods of the Western boomer, whether he be booming a prospective town, a wild-cat mine or a medical fake. We fail to find that the osteopaths have discovered anything except the proper way to advertise, and to bring to the surface the love of humbug, which springs, like hope, eternal in the human breast.

Surely the osteopaths have come at an opportune time. They find Christian Science sinking beneath the wave, and its former adherents are just ready to break away from it and grapple anything which will float them until the next medical fad appears on the horizon.

Physicians need fear little from this or any form of quackery. If osteopathy were not with us the same people would be treated by some other system along the same lines. Magic passes antedate the time of King Solomon. It makes no difference whether an Egyptian soothsayer or a Hindoo fakir strokes away the pain, whether Perkins' tractors cure the rheumatism, whether the Christian Scientist argues away the backache, whether Hahnemann potentizes the draft or Schlatter blesses the handkerchief. The moving power is the same, and a fixed percentage of the community must be treated by it. Dr. Still and his disciples are the latest, not the last, of these workers on credulity.—*Cleveland Journal of Medicine.*

THE CHANCES OF SUCCESS

What are the chances of success in the career that opens before every recent graduate in medicine? The question is one that is hard to answer, the more especially since ideas as to what constitutes success are apt to vary within very large limits. To one man success represents the achievement of a modest competency, another feels that wealth alone can satisfy the cravings of his ambition, while a third dreams only of scientific research rewarded by a reputation that may carry a new name to posterity.

Success depends on two chief factors which may be defined as the man himself and the profession as a whole. The latter is a more important one than is often thought to be the case. It is only in union among its members that the profession of medicine can ever display its strength, and this depends upon concerted action for the purpose of lessening and destroying the evil influences that are constantly at work to diminish the earning powers of its members.

Upon the man himself, however, devolves, the chief responsibility for his success. In the first place he must be an efficient practitioner. We all know of some cases in which slender merit appears to have achieved unwarranted reward, yet the great majority of those who do well are men of ability in their profession. Knowledge is the result of a capacity for well-directed persistent work, and no one who does not feel that this capacity belongs to him is justified in trying to overcome such a handicap. Those elements of manners, breeding, and personal attractiveness which render men popular, are of high importance and are nowhere more fully appreciated than in the close relations that must exist between a doctor and his patients. To sum up, the successful doctor is commonly a good doctor and a gentleman.

Some of the most dismal medical failures of our times are due to the readiness with which young men attempt to enter the practice of a specialty. A youth just matriculated in one of our largest colleges told the writer that he intended to be an eye-doctor. He was answered that there were no eye-doctors, but that there were some doctors of medicine who had worked hard to become efficient practitioners, and who, in the course of their work, had discovered that their talents pointed to that field as the one in which they could bring out the best that was in them. A man might reasonably start out in life, if he had the means, with the determination of being a grocer, or if he had the skill, of achieving distinction in the ranks of the noble army of dish-washers or street-cleaners. In medicine it is not so, and the only great specialists have been men whose specialties have sought them, instead of having sought their specialties.—*International Journal of Surgery.*

SELECTED PAPER

AN ADDRESS ON THE PROGRESS OF PHYSIOLOGY DURING THE LAST THIRTEEN YEARS*

By PROFESSOR MICHAEL FOSTER, M.A., M.D., D.C.L., LL.D., Sec. R. S.,

Professor of Physiology in the University of Cambridge; President of the Section—Montreal, 1884; Toronto, 1897

WE who have come from the little island on the other side of the great waters to take part in this important gathering of the British Association have of late been much exercised in retrospection. We have been looking back on the sixty years' reign of our beloved sovereign, and dwelling on what has happened during her gracious rule. We have, perhaps, done little in calling to mind the wrongs, the mistakes, and the failures of the Victorian era; but our minds and our mouths have been full of its achievements and its progress; and each of us, of himself or through another, has been busy in bringing back to the present the events of more than half a century of the past. It was while I, with others, was in this retrospective mood that the duty of preparing some few words to say to you to-day seemed suddenly to change from an impalpable cloud in the far distance to a heavy burden pressing directly on the back; and in choosing something to say I have succumbed to the dominant influence. Before putting pen to paper, however, I recovered sufficiently to resist the temptation to add one more to the many reviews which have appeared of the progress of physiology during the Victorian era. I also rejected the idea of doing that for which I find precedents in past presidential addresses—namely, of attempting to tell what has been the history of the science to which a Section is devoted during the brief interval which has elapsed since the Section last met; to try to catch physiology, or any other science, as it rushes through the brief period of some twelve months seemed to me not unlike photographing the flying bullet without adequate apparatus; the result could only be either a blurred or a delusive image. But I bethought me that this is not the first, we hope it will not be the last, time that the British Association has met in the Western Hemisphere; and though the events of the thirteen years which have slipped by since the meeting at Montreal in 1884 might seem to furnish a very slender oat on which to pipe a presidential address, I have hoped that I might be led to sound upon it some few notes which might be listened to.

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And, indeed, though perhaps when we come to look into it closely almost every period would seem to have a value of its own, the past thirteen years do, in a certain sense, mark a break between the physiology of the past and that of the future. When the Association met at Montreal in 1884, Darwin, whose pregnant ideas have swayed physiology in the limited sense of that word, as well as that broader study of living beings which we sometimes call biology, as indeed they have every branch of natural knowledge, had been taken from us only some two years before, and there were still alive most of the men who did the great works of physiology of the middle and latter half of this century. The gifted Claude Bernard had passed away some years before, but his peers might have been present at Montreal: Bowman, whose classic works on muscle and kidney stand out as peaks in the physiological landscape of the past, models of researches finished and complete so far as the opportunities of the time would allow, fruitful beginnings and admirable guides for the labors of others; Brown-Séquard, who shares with Bernard the glory of having opened up the great modern path of the influence of the nervous system on vascular and thus on nutritional events, and, who, if he made some mistakes, did many things which will last for all time; Brücke, whose clear judgment, as shown in his digestive and other works, gave permanent value to whatever he put forth; Du Bois-Reymond, who, if he labored in a narrow path, set a brilliant example of the way in which exact physical analysis may be applied to the phenomena of living beings, and in other ways had a powerful influence on the progress of physiology; Donders, whose mind seemed to have caught something of the better qualities of the physiological organ to which his professional life was devoted, and our knowledge of which he so largely extended, so sharply did he focus his mental eye on every physiological problem to which he turned—and these were many and varied; Helmholtz, whose great works on vision and hearing, to say nothing of his earlier distinctly physiological researches, make us feel that if physics gained much, physiology lost even more when the physiologist turned aside to more distinctly physical inquiries; lastly, and not least, Ludwig, who by his own hands or through his pupils did so much to make physiology the exact science which it is to-day, but which it was not when he began his work. I say lastly, but I might add the name of one who, though barred by circumstances from contributing much directly to physiology by way of research, so used his powerful influence in many ways in aid of physiological interests as to have helped the science onward to no mean extent, at least among English-speaking people—I mean Huxley. All these might have met at Montreal. They have all left us now. Among the peers of the men I have mentioned whose chief labors were carried on in the Forties, the Fifties, and the Sixties of the century, one prominent inquirer alone seems to be left, Albert von Kölliker, who in his old age is doing work of which he in his youth might have been proud. The thirteen years which swept the others away seem to mark a gulf between the physiological world of to-day and that of the time in which most of their work was done.

They are gone, but they have left behind their work and their names. May they of the future, as I believe we of the present are doing, take up their work and their example, doing work other than theirs but after their pattern, following in their steps.

In the thirteen years during which these have passed away physiology has not been idle. Indeed, the more we look into the period the more it seems to contain.

THE OPPORTUNITIES OF STUDY

The study of physiology, as of other sciences, though it may be stimulated by difficulties (and physiology has the stimulus of a special form of opposition unknown to other sciences), expands under the sunshine of opportunity and aid. And it may be worth while to compare the opportunities for study of physiology in 1884 with those in 1897. At this meeting of the British Association I may fitly confine myself, I was going to say, to British matters; but I feel at this point, as others have felt, the want of a suitable nomenclature. We who are gathered here to-day have, with the exception of a few honored guests from the Eastern Hemisphere, one common token of unity, and, so far as I know, one only; I am speaking now of outward tokens; down deeper in our nature there are, I trust, yet others. We all speak the English tongue. Some of us belong to what is called Great Britain and Ireland, and others to that which is sometimes spoken of as Greater Britain. But there are others here who belong to neither; though English in tongue, they are in no sense British. To myself, to whom the being English in speech is a fact of far deeper moment than any political boundary, and who wish at the present moment to deal with the study of physiology among all those who speak the English tongue, there comes the great want of some word which will denote all such. I hope—indeed I think—that others feel the same want too. The term Anglo-Saxon is at once pedantic and incorrect, and yet there is none other; and, in the absence of such a better term, I shall be forgiven if I venture at times to use the seemingly narrow word English as really meaning something much broader than British in its very broadest sense.

Using English in this sense, I may, I think, venture to say that the thirteen years which separate 1884 from to-day have witnessed among English people a development of opportunities for physiological study such as no other like period has seen. It is not without significance that only a year or two previous to this period, in England proper, in little England, neither of the ancient Universities of Oxford and Cambridge, which, historically at least, represent the fullest academical aspirations of the nation, possessed a chair of physiology; the present professors, who are the first, were both appointed in 1883. Up to that time the science of physiology had not been deemed worthy, by either University, of a distinctive professorial mechanism. The act of these ancient institutions was only a manifestation of modern impulses, shared also by the metropolis and by the provinces at large. Whereas up to that time the posts for teaching physiology, by whatever name they were called, had been in most cases held by men whose intellectual loins were girded for other purposes than physiology, and who used the posts as stepping-stones for what they considered better things; since that time, as each post became vacant, it has almost invariably been filled by men wishing and purposing at least to devote their whole energies to the science. Scotland, in many respects the forerunner of England in intellectual matters, had not so much need of change; but she, too, has moved in the same direction, as has also the sister island.

And if we turn to this Western Continent, we find in Canada and in the States the same notable enlargement of physiological opportunity, or even a still more notable one. If the English-speaking physiologist dots on the map each place on this Western Hemisphere which is an academic focus of his science, he may well be proud of the opportunities now afforded for the development of English physiology; and the greater part of this has come within the last thirteen years.

Professorial chairs or their analogues are, however, after all but a small part of the provision for the development of physiological science. The heart of physiology is the laboratory. It is this which sends the life-blood through the frame; and in respect to this, perhaps, more than to anything else has the progress of the past thirteen years been striking. Doubtless on both sides of the waters there were physiological laboratories, and good ones, in 1884; but how much have even these during that period been enlarged and improved, and how many new ones have been added? In how many places, even right up to about 1884, the professor or lecturer was fain to be content with mere lecture experiments and a simple course of histology, with perhaps a few chemical exercises for his students! Now each teacher, however modest his post, feels and says that the authorities under whom he works are bound to provide him with the means of leading his students along the only path by which the science can be truly entered upon, that by which each learner repeats for himself the fundamental observations on which the science is based.

THE DUTY OF RESEARCH

But there is a still larger outcome from the professorial chair and the physiological laboratory than the training of the student; there are opportunities not for teaching only, but also for research. And perhaps in no respect has the development during the past thirteen years been so marked as in this. Never so clearly as during this period has it become recognized that each post for teaching is no less a post for learning, that among academic duties the making knowledge is as urgent as the distributing it, and that among professorial qualifications the gift of garnering in new truths is at least as needful as facility in the didactic exposition of old ones. Thirteen years has seen a great change in this matter, and the progress has been, perhaps, greater on this side of the water than on the other, so far as English-speaking people are concerned. We on the other side have witnessed with envy the establishment on this side of a university, physiology having in it an honored place, the keynote of which is the development of original research. It will, I venture to think, be considered a strong confirmation of my present theme that the Clark University at Worcester was founded only ten years ago.

And here, as an English-speaking person, may I be allowed to point out, not without pride, that these thirteen years of increased opportunity have been thirteen years of increased fruitfulness. In the history of our science, among the names of the great men who have made epochs, English names, from Harvey onwards, occupy no mean place; but the greatness of such great men is of no national birth; it comes as it lists, and is independent of time and of place. If we turn to the more everyday workers, whose continued labors more slowly build up the growing edifice and provide the needful nourishment for the greatness of which I have just spoken, we may, I will dare to say, affirm that the last thirteen years has brought contributions to physiology, made known in the English tongue, which, whether we regard their quantity or their quality, significantly outdo the like contributions made in any foregoing period of the same length. Those contributions have been equally as numerous, equally as good, on this side as on the other side of the waters; and here I trust I shall be pardoned if personal ties and affection lead me to throw in a personal word. May I not say that much which has been done on this side has been directly or indirectly the outcome of the energy and gifts of one whom I may fitly name on an occasion such as this, since, though he belonged to the other side, his physiological life was passed and his work was done on this side, one who has been taken from us since this Association last met, Henry Newell Martin?

Yes, during these thirteen years, if we put aside the loss of comrades, physiology has been prosperous with us and the outlook is bright; but, as every cloud has its silver lining, so shadow follows all sunshine, success brings danger, and bitter rises up amid the sweet of prosperity. The development of which I have spoken is an outcome of the progressive activity of the age, and the dominant note of that activity is heard in the word "commercial." Noblemen and noblewomen open shop, and everyone, low as well as high, presses forward towards large or quick profits. The very influences which have made devotion to scientific inquiry a possible means of livelihood, and so fostered scientific investigation, are creating a new danger. The path of the professor was in old times narrow and straight, and only the few who had a real call cared to tread it; nowadays there is some fear lest it become so broad and so easy as to tempt those who are in no way fitted for it. There is an increasing risk of men undertaking a research, not because a question is crying out to them to be answered, but in the hope that the publication of their results may win for them a lucrative post. There is, moreover, an even greater evil ahead. The man who lights on a new scientific method holds the key of a chamber in which much gold may be stored up; and strong is the temptation for him to keep the new knowledge to himself until he has filled his fill, while all the time his brother inquirers are wandering about in the dark through lack of that which he possesses. Such a selfish withholding of new scientific truth is beginning to be not rare in some branches of knowledge. May it never come near us!

LINES OF PROGRESS

Now I will, with your permission, cease to sound the provincial note, and ask your attention for a few minutes while I attempt to dwell on what seem to me to be some of the salient features of the fruits of physiological activity, not among English-speaking people only, but among all folk, during the past thirteen years.

When we review the records of research and discovery over any lengthened period, we find that in every branch of the study progress is irregular, that it ebbs and flows. At one time a particular problem occupies much attention, the periodicals are full of memoirs about it, and many of the young bloods flesh their maiden swords upon it. Then again for a while it seems to lie dormant and unheeded. But quite irrespective of this feature, which seems to belong to all lines of inquiry, we may recognize two kinds of progress: On the one hand, in such a period, in spite of the waves just mentioned, a steady advance continually goes on in researches which were begun and pushed forward in former periods, some of them being of very old date. On the other hand, new lines of investigation, starting with quite new ideas or rendered possible by the introduction of new methods, are or may be begun. Such naturally attract great attention, and give a special character to the period.

In the past thirteen years we may recognize both these kinds of progress. Of the former kind I might take, as an example, the time-honored problems of the mechanics of the circulation. In spite of the labor which has been spent on these in times of old, something always remains to be done, and the last thirteen years have not been idle. The researches of Hürthle and Tigerstedt, of Roy and Adami, not to mention others, have left us wiser than we were before. So again, with the also old problems of muscular contraction, progress, if not exciting, has been real; we are some steps measurably nearer an understanding what is the exact nature of the fundamental changes which bring about contraction, and what are the relations of those changes to the structure of the muscular fiber. In respect to another old problem, too, the beat of the heart, we have continued to creep nearer and nearer to the full light. Problems again, the method of attacking which is of more recent origin, such as the nature of secretion, and the allied problem of the nature of transudation, have engaged attention, and brought about that stirring of the waters of controversy which, whatever be its effects in other departments of life, is never in science wholly a waste of time, if indeed it be a waste of time at all, since, in matters of science, the tribunal to which the combatants of both sides appeal is always sure to give a true judgment in the end. In the controversy thus arisen, the last word has perhaps not yet been said, but whether we tend at present to side with Heidenhain, who has continued into the past thirteen years the brilliant labors which were perhaps the distinguishing features of physiological progress in preceding periods, and who in his present sufferings carries with him, I am sure, the sympathies if not the hopes of all his brethren, or whether we are more inclined to join those who hold different views, we may all agree in saying that we have, in 1897, clearer ideas of why secretion gathers in an alveolus or lymph in a lymph-space than we had in 1884.

I might multiply such examples of progress on more or less old lines until I wearied you; but I will try not to do so. I wish rather to dwell for a few minutes on some of what seem to be the salient new features of the period under review.

THE NEW PHYSIOLOGICAL CHEMISTRY

One such feature is, I venture to think, the development of what may perhaps be called the new physiological chemistry. We always are, and for a time always have been, learning something new about the chemical phenomena of living beings. During the years preceding those immediately recent, great progress, for which we have especially, perhaps, to thank Kühne, was made in our knowledge of the bodies which we speak of as proteids and their allies. But while admitting to the full the high value of all these researches, and the great light which they threw on many of the obscurer problems of the chemical changes of the body, such, for instance, as the digestive changes and the clotting of blood, it could not but be felt that their range was restricted and their value limited. Granting the extreme usefulness of their being able to distinguish bodies through their solution or precipitation by means of this or that salt or acid, this did not seem to promise to throw much light on the all-important problem as to what was the connection between the chemical constitution of such bodies and their work in the economy of a living being. For it need not be argued that this is an all-important problem. To-day, as yesterday and as in the days before, the mention of the word vitalism or its equivalent separates as a war-cry physiologists into two camps, one contending that all the phenomena of life can, and the other that they cannot, be explained as the result of the action of chemico-physical forces. For myself, I have always felt that while such a controversy, like other controversies, as I ventured to say just now, is useful as a stirring of the waters, through which much oxygen is brought home to many things and no little purification effected, the time for the final judgment on the question will not come until we shall more clearly understand than we do at present what we mean by physical and chemical, and may perhaps be put off until somewhere near the end of all things, when we shall know as fully as we ever shall what the forces to which we give these names can do and what they cannot. Meanwhile the great thing is to push forward, so far as may be, the chemical analysis of the phenomena presented by living beings. Hitherto the physiological chemists, or the chemical physiologists, as perhaps they ought rather to be called, have perhaps gone too much their own gait, and have seemed to be constructing too much a kind of chemistry of their own. But that, may I say, has in part been so because they did not receive from their distinctly chemical brethren the help of which they were in need? May I go so far as to say that to us physiologists these our brethren seemed to be lagging somewhat behind, at least along those lines of their science which directly told on our inquiries? That is, however, no longer the case. They are producing work and giving us ideas which we can carry straight into physiological problems. The remarkable work of Emil Fischer on sugars, one of the bright results of my period of thirteen years, may fully be regarded as opening up a new era in the physiology of the carbohydrates, opening up a new era because it has shown us the way how to investigate physiological problems on purely and distinctively chemical lines. Not in the carbohydrates only, but in all directions our younger investigators are treating the old problems by the new chemical methods; the old physiological chemistry is passing away; nowhere, perhaps, is the outlook more promising than in this direction; and we may at any time receive the news that the stubborn old fortress of the proteids has succumbed to the new attack.

COMPARATIVE PHYSIOLOGY

Another marked feature of the period has been the increasing attention given to the study of the lower forms of life, using their simpler structures and more diffuse phenomena to elucidate the more general properties of living matter. During the greater part of the present century physiologists have, as a rule, chosen as subjects of their observations almost exclusively the vertebrata; by far the larger part of the results obtained during this time have been gained by inquiries restricted to some half a dozen kinds of back-boned animals; the frog and the myograph, the dog and the kymograph have almost seemed the alpha and the omega of the science. This has been made a reproach by some, but, I cannot help thinking, unjustly. Physiology is, in its broad meaning, the unravelling of the potentialities of things in the condition which we call living. In the higher animals the evolution by differentiation has brought these potentialities, so to speak, near the surface, or even laid them bare as actual properties capable of being grasped. In the lower animals they still lie deep buried in primeval sameness; and we may grope among them in vain unless we have a clue furnished by the study of the higher animal. This truth seems to have been early recognized during the progress of the science. In the old time, observers, such as Spallanzani, with but a moderate amount of accumulated knowledge behind them, and a host of problems before them, with but few lines of inquiry as yet definitely laid down, were free to choose the subjects of their investigation where they pleased, and in the wide field open to them prodded, so to speak, among all living things, indifferent whether they possessed a back-bone or no. But it soon became obvious that the study of the special problems of the more highly organized creature was more fruitful, or at least more easily fruitful, than that of the general problems of the simpler forms; and hence it came about that inquiry, as it went on, grew more and more limited to the former. But an increasing knowledge of the laws of life as exemplified in the differentiated phenomena of the mammal is increasingly fitting us for a successful attack on the more general phenomena of the lowly creatures possessing little more than that molecular organization, if such a phrase be permitted, which alone supplies the conditions for the manifestation of vital activities. And, though it may be true that in all periods men have from time to time labored at this theme, I think that I am not wrong in saying that the last dozen years or so mark a distinct departure both as regards the number of researches directed to it, and also, what is of greater moment, as regards the definiteness and clearness of the results thereby obtained. One has only to look at the results recorded in the valuable treatises of Verworn and Biedermann, whether obtained by the authors themselves or by others, to feel great hope that in the immediately near future a notable advance will be made in our grasp of the nature of that varying collection of molecular conditions, potencies, and changes, slimy hitherto to the intellectual no less than to the physical touch, which we are in the habit of denoting by the more or less magical word protoplasm. And perhaps one happy feature of such an advance will be one step in the way of that reintegration which men of science fondly hope may ultimately follow the differentiation of studies now so fierce and attended by many ills; in the problems of protoplasm the animal physiologist touches hands with the botanist, and both find that under different names they are striving towards the same end.

Closely allied to and indeed a part of the above line of inquiry is the study of the physiological attributes of the cell and of their connection with its intrinsic organization. This is a study which, during the last dozen years, has borne no mean fruits; but it is an old study, one which has been worked at from time to time, reviving again and again as new methods offered new opportunities. Moreover, it will probably come directly before us in our sectional work, and therefore I will say nothing more of it here.

INTERNAL SECRETIONS

Still another striking feature of the past dozen years has been the advance of our knowledge in regard to those events of the animal body which we have now learnt to speak of as "internal secretions." This knowledge did not begin in this period. The first note was sounded long ago in the middle of the century, when Claude Bernard made known what he called "the glycogenic function of the liver." Men, too, were busy with the thyroid body and the suprarenal capsules long before the meeting of the British Association at Montreal. But it was since then, namely, in 1889, that Minkowski published his discovery of the diabetic phenomena resulting from the total removal of the pancreas. That, I venture to think, was of momentous value, not only as a valuable discovery in itself, but especially, perhaps, in confirming and fixing our ideas as to internal secretion, and in encouraging further research.

Minkowski's investigation possessed this notable feature, that it was clear, sharp, and decided, and, moreover, the chief factor, namely, sugar, was subject to quantitative methods. The results of removing the thyroid body had been to a large extent general, often vague, and in some cases uncertain; so much so as to justify, to a certain extent, the doubts held by some as to the validity of the conclusion that the symptoms witnessed were really and simply due to the absence of the organ removed. The observer who removes the pancreas has to deal with a tangible and measurable result, the appearance of sugar in the urine. About this there can be no mistake, no uncertainty. And the confidence thus engendered in the conclusion that the pancreas, besides secreting the pancreatic juice, effects some notable change in the blood passing through it, spread to the analogous conclusions concerning the thyroid and the suprarenal, and, moreover, suggested further experimental inquiry. By those inquiries all previous doubts have been removed; it is not now a question whether or no the thyroid carries on a so-called internal secretion; the problem is reduced to finding out what it exactly does and how exactly it does it. Moreover, no one can at the present day suppose that this feature of internal secretion is confined to the thyroid, the suprarenal, and the pancreas; it needs no spirit of prophecy to foretell that the coming years will add to physiological science a large and long chapter, the first marked distinctive verses of which belong to a dozen years which have just passed away.

THE STRUCTURE OF THE NERVOUS SYSTEM

The above three lines of advance are of themselves enough to justify a certain pride on the part of the physiologist as to the share which his science is taking in the forward movement of the time. And yet, I venture to think, that each and all of these is wholly overshadowed by researches of another kind, through which knowledge has made, during the past dozen years or so, a bound so momentous and so far-reaching that all other results gathered in during the time seem to shrink into relative insignificance.

It was a little before my period, in the year 1879, that Golgi published his modest note, Un nuovo processo di technica microscopica.[1] That was the breaking out from the rocks of a little stream which has since swollen into a great flood. It is quite true that long before a new era in our knowledge of the central nervous system had been opened up by the works of Ferrier and of Fritsch and Hitizig. Between 1870 and 1880 progress in this branch of physiology had been continued and rapid. Yet that progress had left much to be desired. On the one hand the experimental inquiries, even when they were carried out with the safeguard of adequate psychical analysis of the phenomena which presented themselves, and this was not always the case, sounded a very uncertain note, at least when they dealt with other than simply motor effects. They were, moreover, not infrequently in discord with clinical experience. In general the conclusions which were arrived at through them, save such as were based on the production of easily recognized and often measurable movements, were regarded by many as conclusions of the kind which could not be ignored, which demanded respectful attention, and yet which failed to carry conviction. It seemed to be risking too much to trust too implicitly to the apparent teaching of the results arrived at; something appeared wanting to give these their full validity, to explain their full and certain meaning by showing their connection with what was known in other ways and by other methods. On the other hand, during nearly all this time, in spite of the valuable results acquired by the continually improving histological technique, by the degeneration method, and by the developmental method, by the study of the periods of myelination, most of us, at all events, were sitting down, as our forefathers had done, before the intricate maze of encephalic structures, fascinated by its complexity, but wondering what it all meant. Even when we attempted to thread our way through the relatively simple tangle of the spinal cord, to expect that we should ever see our way so to unravel out the strands of fibers, here thick, there thin, now twisting and turning, and anon running straight, or so to set out in definite constellations the seeming milky way of star-like cells, so to do this as to make the conformation of the cord explain the performances of which it is capable, appeared to be something beyond our reach. And when we passed from the cord to those cerebral structures the even gross topography of which is the despair of the beginner in anatomical studies, the multiple maze of grey and white matter seemed to frame itself into the letters graven on the gateway of the city of Dis, and bid us leave all hope behind.

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[1] *Rendiconti del Reale Istituto Lombardo*, vol. xii, p. 206.

What a change has come upon us during the past dozen years, and how great is the hope of ultimate success which we have today. Into what at the meeting at Montreal seemed a cloudy mass, in which most things were indistinct and doubtful, and into which each man could read images of possible mechanisms according as his fancy led, the method of Golgi has fallen like a clarifying drop, and at the present moment we are watching with interest and delight how that vague cloud is beginning to clear up and develop into a sharp and definite picture, in which lines objectively distinct and saying one thing only reveal themselves more and more.

THE PHYSIOLOGY OF HEARING

This is not the place to enter into details, and I will content myself with pointing out as illustrative of my theme the progress which is being made in our knowledge of how we hear and how sounds affect us. A dozen years ago we possessed experimental and clinical evidence which led us to believe that auditory impulses sweeping up the auditory nerve became developed into auditory sensations through events taking place in the temporo-sphenoidal convolution, and we had some indications that as these passed upward through the lower and middle brain the striæ acusticæ and the lateral fillet had some part to play. Beyond this we knew but little. To-day we can with confidence construct a diagram which he who runs can read, showing how the impulses undergoing a relay in the tuberculum acusticum and accessory nucleus pass by the striæ acusticæ and trapezoid fibers to the superior olive and trapezoid nucleus, and onward by the lateral fillet to the posterior corpus quadrageminum and to the cortex of the temporo-sphenoidal convolution. And if much, very much, yet remains to be done even in tracking out yet more exactly the path pursued by the impulses while they are still undeveloped impulses, not as yet lit up with consciousness, and in understanding the functional meaning of relays and apparently alternate routes, to say nothing of the deeper problems of when and how the psychical element intervenes, we feel that we have in our hands the clue by means of which we may hope to trace out clearly the mechanisms by which, whether consciousness plays its part or no, sounds affect so profoundly and so diversely the movements of the body, and haply some time or other to tell, in a plain and exact way, the story of how we hear. I have thus referred to hearing because the problems connected with this seemed, thirteen years ago, so eminently obscure; it appeared so pre-eminently hard a task, that of tracing out the path of an auditory impulse through the confused maze of fiber and cell presented by the lower and middle brain. Of the mechanism of sight we seemed even then to have better knowledge, but how much more clearly do we, so to speak, see vision now? So also with all other sensations, even those most obscure ones of touch and pain; indeed, all over the nervous system light seems breaking in a most remarkable way.

THE METHOD OF GOLGI

This great and significant progress we owe, I venture to say, to Golgi, to the method introduced by him; and I for one cannot help being glad that this important contribution to science, as well as another contingent and most valuable one, the degeneration-method of Marchi, should be among the many tokens that Italy, the mother of all sciences in times gone by, is now once more taking her right place in scientific no less than in political life. We owe, I say, this progress to Golgi in the sense that the method introduced by him was the beginning of the new researches. We owe, moreover, to Golgi not the mere technical introduction of the method, but something more. He himself pointed out the theoretical significance of the results which his method produced; and if in this he has been outstripped and even corrected by others, his original merit must not be allowed to be forgotten. Those others are many, in many lands; but two names stand out conspicuous among them. If rejuvenescent Italy invented the method, another ancient country, whose fame, once brilliant in the past, like that of Italy, suffered in later times an eclipse, produced the man who above all others has showed us how to use it. At the meeting at Montreal a voice from Spain telling of things physiological would have seemed a voice crying out of the wilderness; to-day the name of Ramon y Cajal is in every physiologist's mouth. That is one name, but there is yet another. Years ago, when those of us who are now veterans and see signs that it is time for us to stand aside were spelling out the primer of histology, one name was always before us as that of a man who touched every tissue, and touched each well. It is a consoling thought to some of us elder ones that histological research seems to be an antidote to senile decay. As the companion of the young Spaniard in the pregnant work on the histology of the central nervous system done in the eighties and the nineties of the century must be named the name of the man who was brilliant in the fifties, Albert von Kölliker.

When I say that the progress of the knowledge of the central nervous system during the past thirteen years has been largely due to the application of the method of Golgi, I do not mean that it, alone and by itself, has done what has been done. That is not the way of science. Almost every thrust forward in science is a resultant of concurrent forces working along different lines, and in most cases at least significant progress comes when efforts from different quarters meet and join hands. An especially as regards methods it is true that their value and effect depend on their coming at their allotted times. As I said above, neither experimental nor clinical observation nor histological inquiry by the then known methods had been idle before 1880. They had, moreover, borne even notable fruits; but one thing was lacking for their fuller fruition. The experimental and clinical results all postulated the existence of clear definite paths for impulses within the central nervous system, of paths, moreover, which, while clear and sharp, were manifold, and, under certain conditions, alternate or even vicarious, and were so constructed that the impulses as they swept along them underwent from time to time—that is, at some place or other—transformations or at least changes in nature. But the methods of histological investigations available before that of Golgi, though they taught us much, failed to furnish such an analysis of the tangle of grey and white matter as would clearly indicate the paths required. This the method of Golgi did, or rather is doing. Where gold failed silver has succeeded, and is succeeding. Thanks to the black tract which silver when handled in a certain way leaves behind it in the animal body—as, indeed, it does elsewhere—we can now trace out within the central nervous system the pathway afforded by the nerve-cell and the nerve-cell alone. We see its dendrites branching out in various directions, each alert to dance the molecular dance assigned to it at once by the more lasting conditions which we call structural, and the more passing ones which we call functional, so soon as some partner touch its hand. We see the body of the cell with its dominant nucleus ready to obey and yet to marshal and command the figure so started. We see the neuraxon prepared to carry that figure along itself, it may be to far-distant parts, it may be to near ones, or to divert it along collaterals, it may be many or it may be few, or to spread out at once among numerous seemingly equipollent branches. And whether it prove ultimately true or no that the figure of the dancing molecules sweeps always onward along the dendrites towards the nucleus, and always outward away from the nucleus along the neuraxon, or whatever way in the end be shown to be the exact differences in nature and action between the dendrites and the neuraxon, this at least seems sure, that cell plays upon cell only by such a kind of contact as seems to afford an opportunity for change in the figure of the dance, that is to say, in the nature of the impulse, and that in at least in the ordinary play it is the terminal of the neuraxon (either of the main core or a collateral) of one cell which touches with a vibrating touch the dendrite or the body of some other cell. We can thus, I say, by the almost magic use of a silver token—I say magic use, for he who for the first time is shown a Golgi preparation is amazed to learn that it is such a sprawling thing as he sees before him which teaches so much, and yet when he comes to use it acquires daily increased confidence in its worth—it is by the use of such a silver token that we have been able to unravel so much of the intricate tangle of the possible paths of nervous impulses. By themselves the acquisition of a set of pictures of such black lines would be of little value. But—and this I venture to think is the important point, to a most remarkable extent, and with noteworthy rapidity—the histological results thus arrived at, aided by analogous results reached by the degeneration method, especially by the newer method akin to that of Golgi, that of Marchi, have confirmed or at times extended and corrected the teachings of experimental investigation and clinical observation. It is this which gives strength to our present position; we are attacking our problems along two independent lines. On the one hand, we are tracing out anatomical paths and laying bare the joints of histological machinery; on the other hand, beginning with the phenomena, and analyzing the manifestations of disorder, whether of our own making or no, as well as of order, we are striving to delineate the machinery by help of its action. When the results of the two methods coincide, we may be confident that we are on the road of all truth; when they disagree, the very disagreement serves as the starting point for fresh inquiries along the one line or the other.

THE FUTURE OF PHYSIOLOGY

Fruitful as have been the labors of the past dozen years, we may rightly consider them as but the earnest of that which is to come; and those of us who are far down on the slope of life may wistfully look forward to the next meeting of the Association on these Western shores, wondering what marvels will then be told.

Physiology, even in the narrower sense to which, by emphasis on the wavering barrier which parts the animal from the plant, it is restricted in this Section, deals with many kinds of being, and with many things in each. But, somewhat as in man, in one aspect a tiny fragment of the world, still more of the universe, in another aspect looms so great as to overshadow everything else, so the nervous system, seen from one point of view, is no more than a mere part of the whole organism, but, seen from another point of view, seems by its importance to swallow up all the rest. As man is apt to look upon all other things as mainly subserving his interests and purposes, so the physiologist, but with more justice, may regard all the rest of the body as mainly subserving the welfare of the nervous system; and, as man was created last, so our natural knowledge of the working of that nervous system has been the latest in its growth. But, if there be any truth in what I have urged to-day, we are witnessing a growth which promises to be as rapid as it has seemed to be delayed. Little spirit of prophecy is needed to foretell that in the not so distant future the teacher of physiology will hurry over the themes on which he now dwells so long in order that he may have time to expound the most important of all the truths which he has to tell, those which have to do with the manifold workings of the brain.

And I will be here so bold as to dare to point out that this development of his science must, in the times to come, influence the attitude of the physiologist toward the world, and ought to influence the attitude of the world toward him. I imagine that if a plébiscite, limited even to instructed, I might almost say scientific, men, were taken at the present moment, it would be found that the most prevalent conception of physiology is that it is a something which is in some way an appendage to the art of medicine. That physiology is, and always must be, the basis of the science of healing, is so much a truism, that I would not venture to repeat it here were it not that some of those enemies, alike to science and humanity, who are at times called antivivisectionists, and whose zeal often outruns not only discretion, but even truth, have quite recently asserted that I think otherwise. Should such a hallucination ever threaten to possess me, I should only have to turn to the little we yet know of the physiology of the nervous system, and remind myself how great a help the results of pure physiological curiosity—I repeat the words pure physiological curiosity, for curiosity is the mother of science—have been, alike to the surgeon and to the physician, in the treatment of those in some way most afflicting maladies—the diseases of the nervous system. No, physiology is, and always must be, the basis of the science of healing; but it is something more. When physiology is dealing with those parts of the body which we call muscular, vascular, glandular tissues, and the like, rightly handled she points out the way not only to mend that which is hurt, to repair the damages of bad usage and disease, but so to train the growing tissues and to guide the grown ones as that the best use may be made of them for the purposes of life. She not only heals, she governs and educates. Nor does she do otherwise when she comes to deal with the nervous tissues. Nay, it is the very prerogative of these nervous tissues that their life is above that of all the other tissues, contingent on the environment and susceptible of education. If increasing knowledge gives us increasing power so to mould a muscular fiber that it shall play to the best the part which it has to play in life, the little knowledge we at present possess gives us at least much confidence in a coming far greater power over the nerve cell. This is not the place to plunge into the deep waters of the relation which the body bears to the mind; but this at least stares us in the face, that changes in what we call the body bring about changes in what we call the mind. When we alter the one we alter the other. If, as the whole past history of our science leads us to expect, in the coming years a clearer and clearer insight into the nature and conditions of that molecular dance which is to us the material token of nervous action, and a fuller exacter knowledge of the laws which govern the sweep of nervous impulses along fiber and cell, give us wider and directer command over the moulding of the growing nervous mechanism and the maintenance and regulation of the grown one, then assuredly physiology will take its place as a judge of appeal in questions not only of the body, but of the mind; it will raise its voice, not in the hospital and consulting room only, but also in the senate and the school.

One word more. We physiologists are solely tempted towards self-righteousness, for we enjoy that blessedness which comes when men revile you and persecute you and say all manner of evil against you falsely. In the mother country our hands are tied by an Act which was defined by one of the highest legal authorities as a "penal" Act; and though with us, as with others, difficulties may have awakened activity, our science suffers from the action of the State. And some there are who would go still farther than the State has gone, though that is far, who would take from us even that which we have, and bid us make bricks wholly without straw. To go back is always a hard thing, and we in England can hardly look to any great betterment for at least many years to come. But unless what I have ventured to put before you to-day be a mocking phantasm, unworthy of this great Association and this great occasion, England in this respect at least offers an example to be shunned alike by her offspring and her fellows.

Mumps

Trachet recommends the following ointment:

Ichthyol Iodide of Lead	ā ā 45 grn.
Chloride of Ammonium	30 grn.
Lard	1 oz.

M. Sig.: This ointment is to be applied to the swollen parts three times a day.

F.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Joseph P Winston, M.D., George E. West, M.D.,
W. J. Robinson, M.D., L. Schöney, M.D.

Results Following Inoculation for Hydrophobia

M. Henri Pottevin, in the *Ann. d. l'Inst. Pasteur* (April, 1897), states that the whole number of patients treated at the Pasteur Institute since its establishment (1886) to the close of 1896 was 18,645. Of this number 15,549 were French, and 3,096 of various nationalities. There were 140 deaths, giving an average mortality-rate of 0.74 per cent. M. Pottevin's tables show that, with the exception of 1891 and '92, when the rate was very low, 0.25 and 0.22 per cent. respectively, there has been a gradual decrease of the mortality-rate from 0.94 per cent. in 1886 to 0.30 per cent. in 1896.

Amaurotic Idiocy

At a stated meeting of the Section on Pediatrics, New York Academy of Medicine, Dr. Heiman presented a female child, 14 months old, who could neither walk nor talk. Parents said child appeared to be perfectly normal for the first six months. The ophthalmoscope showed a yellowish-white patch occupying the position of the macula, and about two and a half times the diameter of the disk. This condition was first described by Dr. B. Sachs, about ten years ago, and about the same time by Dr. Knapp. In almost every case death had occurred after the second year.

L.

Erysipelatous Endocarditis

Before the Russian Medical Society of the faculty of Warsaw, Dr. Damsky reported the following case (*La Méd. mod.*, VIII, 54). A girl of 17, perfectly healthy, received a slight wound of the foot, followed on the third day with intense chills and fever. The wound became painful and surrounded with an erythema, which on the next day appeared also on the left leg. On admission to the hospital she was found to have besides erysipelas of both legs a generalized bronchitis, cardiac dulness with a systolic murmur at the base. Sodium salicylate was administered internally, and corrosive-sublimate compresses were applied to the legs. The erysipelas disappeared after four days' treatment, the bronchitis and night-sweats a few days later, but the cardiac symptoms persisted, the dulness now reaching to the right border of the sternum. The temperature assumed an intermittent type, 98° F. in the morning, 103° F. in the evening. The pulse became small and frequent (120-140), the extremities and the lips cyanosed and the general condition very grave. It was then decided to inject Marmorek's serum in 10 c.c. doses every second day. After the second injection the patient was taken with a very severe chill, and the temperature rose to 104.8, remaining at that point for two days, the general condition getting still worse.

A hypodermic injection in the region of the abdomen was then given of 40 centigrammes of oil of turpentine (about 10 drops). The patient soon complained of intense pain at the point of the injection, but the general condition began to improve rapidly; temperature fell, pulse became less frequent, appetite increased, and the cardiac murmur disappeared; but the cardiac dulness persisted. In a few days the patient felt quite well. Dr. Damsky calls attention to two points in this case: to the efficiency of Marmorek's serum and to the remarkable action of the turpentine, which he thinks saved the patient, who was already considered lost.

M.

Action of Digitalis on the Circulation

In an important contribution to the action of the digitalis series on the circulation, in the *Journal of Experimental Medicine*, May, 1897, A. R. Cushny, summing up, says:

It may be stated that the action of digitalis has been divided into two stages according to the changes evinced by the ventricles under its influence; of these the first is characterized by marked inhibitory action, together with modification of the cardiac muscle, while in the second the inhibitory action is less marked and the muscular action becomes the more prominent feature.

The inhibitory action is due to direct stimulation by this series of the pneumogastric centrally in the medulla and peripherally in the heart.

The extent to which the inhibitory mechanism is stimulated varies in different animals and with different members of the digitalis series. The muscular action of small quantities betrays itself in a tendency to increase the extent of the contraction, while in some cases the degree of relaxation reached in diastole is also lessened by it. In larger quantities the series increases the irritability of the cardiac muscle very considerably, and the spontaneous rhythm of the ventricles therefore becomes developed.

Through the interaction of these two factors in the first stage the rhythm of the whole heart is slowed, the contraction of the ventricle is more complete, and the diastolic relaxation is generally increased, although it may be unchanged or lessened.

The systolic pressure is increased, and the fall from maximum to minimum pressure is slower than normal, owing to the increased completeness and longer duration of systole.

The auricles generally contract with less force, and may relax more completely than normally. Sometimes, however, their contractions also are more complete than before the injection of the drug. This latter condition generally precedes the diminution of the force of the auricular contraction. This variation of the effects of digitalis in the auricle explains the changes in the intra-auricular pressure noted by Kaufmann.

The contraction-volume of the ventricles is always much increased, and the output per unit of time is generally augmented, and this, together with the contraction of the peripheral arterioles, causes an increase in the tension in the systemic circulation, an acceleration of the circulation, and possibly a temporary increase in the pressure in the great veins, and in the auricle and ventricle in diastole.

The pressure in the pulmonary artery is practically unaffected by some members of the series, while by others it is considerably increased. This difference in the reaction of the pulmonary circulation is due to the varying extent to which these drugs act on the peripheral arteries, and not to any difference in their action on the two sides of the heart.

If the inhibitory action be very strongly marked, the slowing of the heart may be extreme, the ventricles assuming their own spontaneous rhythm, and all connection with the auricles being lost.

While the contraction-volume of the ventricle is still greater than normal, their output per unit of time may become less than normal, the aortic tension therefore fall and the rapidity of the circulation be lessened.

The ventricles maintain their association throughout, and probably the rhythm of the two auricles also remains equal. The ventricular rhythm, however, becomes irregular owing to the variation in the duration of the diastolic pause. The auricles may cease altogether in diastole, or may continue to beat with a slower or faster rhythm than the ventricles.

During the second stage the rhythm of the heart becomes accelerated, owing to the increased irritability of the heart-muscle. The ventricle tends to assume a rapid spontaneous rhythm, while the auricular rhythm is also quicker than in the first stage. When these two rhythms interfere by the passage of impulse across the auriculo-ventricular boundary in either direction, irregularity of the heart is produced, generally bearing a distinctly periodic character. The ventricles continue to maintain their common rhythm, while the auricles and ventricles may contract at different rates. The two ventricles, however, do not necessarily contract with equal force, and the contractions of one may present periodic variations in strength, while those of the other may be almost perfectly uniform. The contractions of the auricles vary in the same way as regards each other and the ventricles. The inhibitory nerves are no longer able to slow the ventricular rhythm, but may affect the completeness of systole and diastole in the ordinary way. The auricular contractions can still be lessened in force and possibly be abolished by their stimulation, and the impulses passing between the auricle and ventricle may therefore be blocked, and regularity of the heart produced by powerful inhibition. The irregularity of the contractions is therefore due indirectly to the increased irritability of the cardiac muscle, and the acceleration must be attributed to the same cause. An extreme phase of this stage produced by the interference of the rhythms is a temporary standstill of one of the chambers, generally the auricle.

The irregularity leads to a lessened efficiency of the work of the heart. The output varies extremely in successive observations, and the contraction-volume of every individual beat may differ. The various chambers often show a tendency to dilate during this stage. The blood-pressure in the systemic arteries at first remains high, in fact may be higher than in the first stage, owing to the increased rapidity of the heart-rhythm, but afterward falls continuously as the periodic variations become shorter in duration.

The auricles generally cease contracting before the ventricles, but not invariably. There is no fixed order in the cessation of the ventricles or auricles. Each division comes to a standstill in a position somewhat nearer diastole than systole, and then passes into delirium and dilates to the fullest extent.

Acute Dilatation of the Stomach

Henry W. Bettmann, in *The Cincinnati Lancet-Clinic*, Vol. XXXVIII, No. 21, p. 569, furnishes facts to prove (1) that there *is* such an affection as acute dilatation of the stomach; (2) that the disease is fairly uniform in its onset, course, and tendency to a rapidly fatal termination; (3) that the treatment must be prompt and active, and that some lives may be saved by early recognition of the condition and energetic treatment.

Fagge, from his two striking cases reported in 1873, made the following conclusions:

1. Acute dilatation of the stomach may arise in young subjects in whom the organ has apparently been healthy. The actual process of enlargement is probably more or less gradual. At first it produces no symptoms, but when these occur they are sudden in onset and very violent, and may lead to death in a few days.
2. Toward the end the abdomen is unsymmetrically distended, the left hypochondrium is full, the right hypochondrium is flattened; the course of the lesser curvature can be followed from the left hypochondrium downward and to the right. There are fluctuation and splashing in the hypogastrium. The prevailing percussion-note over the tumor is a tympanitic.
3. The symptoms are those of collapse. The vomiting at first is persistent; several quarts of fluid may be evacuated; then vomiting may cease entirely, the stomach becoming overdistended (compare the urinary bladder). The urine is scanty; no absolute constipation exists.
4. The necropsy reveals a stomach enormously distended. The stomach may return to its normal size after removal, showing no graver lesions than slight lacerations of the muscular coat (compare the striæ gravidarum).
5. The stomach-pump may save the life of the patient. After its use, the stomach may regain its normal size.

Dr. Bettmann reports the following case:

Bessie Lampe, aged 17, of Russian extraction, very well developed and nourished, was admitted to service in the Jewish Hospital, October 23, 1895. She had enjoyed the best of health up to two weeks prior to admission, when she began to complain of headache, anorexia, fever, lassitude, and vomiting. She was treated by Dr. Bauer, who made the diagnosis of typhoid fever, and placed her under proper treatment. Upon admission to the hospital she presented the typical picture of typhoid fever; her intellect was clouded, her spleen enlarged, her fever ranged between 101° F. and 103° F. She had diarrhea; the stools were typical of typhoid fever, and in a few days the eruption appeared over the abdomen. The only serious complications were vomiting, which was obstinate and occurred one or more times daily, and retention of urine, which necessitated catheterization of the bladder throughout the whole course of her sickness. The diagnosis of typhoid fever with acute gastritis was made.

From October 23 to November 7 the disease progressed naturally; the patient was delirious at times, and vomited food frequently, and complained considerably of abdominal tenderness, but the fever gradually declined.

From October 7 to 13 convalescence was fairly established; she felt very hungry, took nourishment (which consisted of ice-cream, tea, soft-boiled eggs, and chicken-broth) well, and slept from nine to ten hours every night under the influence of trional.

On October 13 she vomited once, but felt well.

On the 14th she complained of severe abdominal pain, became very nervous, being delirious at times, and vomited eight times. Food was stopped. The abdomen was enlarged and tender.

On the 15th the restlessness continued until 10:30 P. M., when she suddenly collapsed. Her temperature fell to 96.5° F.; she was pulseless at the wrist.

It was with the greatest difficulty that she was kept alive during all the next day, and three nurses were constantly busy. All day she was pulseless and cold, and vomited large quantities of a thin, greenish fluid. Now and then she would swallow a small quantity of cracked ice with a few drops of chloroform, but for the most part her sensorium was dulled. Her bowels moved spontaneously, the stool being brown and watery. About 700 c.c. of urine were drawn during the twenty-four hours. During the day she vomited from twenty to twenty-five times, the quantity of fluid varying from 25 to 150 c.c. each time. The total quantity must have been nearly three pints.

On the 17th the vomiting continued unabated, the fluid, of a light green, coming up in large quantities. Her bowels moved three times spontaneously. The abdomen was still distended. The condition of collapse continued, though the patient was conscious throughout the day.

On the 18th the condition of the patient was so desperate that gastric lavage was determined upon. A very thin tube was passed without much difficulty, and a large quantity of thin greenish fluid was removed. The condition of the patient was improved almost immediately, the abdominal distension disappeared, the sensorium became clearer. Rectal alimentation was resorted to. The vomiting ceased for about eighteen hours. The bowels moved spontaneously, the stools being thin and brown.

Gastric lavage was practiced once or twice daily for three days, and the patient was nourished entirely by enemata for five days. Her convalescence was slow. She vomited at times and remained weak, being slightly delirious now and then.

On the 31st she retained some ice-tea and orange-juice.

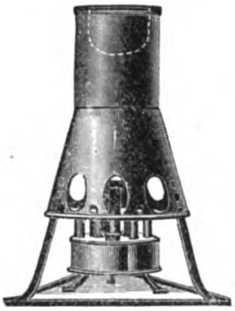
From the 22d on her improvement was more rapid, her stomach retained koumyss, buttermilk, chicken-broth, and her strength slowly returned. She remained in the hospital two months more, suffering from ulcers on the legs due to sloughing in places where ether had been injected. During the past year her health has been perfect, and last week she presented a picture of robust health.

Summing up, the ensuing facts may be postulated:

1. During the course of convalescence from some acute or chronic disease the stomach may undergo rapid dilatation.
2. This condition is marked clinically by a sudden and violent onset; vomiting is violent and intractable; large quantities of fluid are ejected; fluid is usually greenish, due to admixture of bile. The patient is reduced to a state of collapse or exhaustion, which may prove fatal in a few days.
3. During the progress of the disease the abdomen becomes distended, the right hypochondrium remaining flattened. The bowels move spontaneously, and a splash may be elicited over the site of the distension. The mind usually becomes clouded.
4. If treatment is unsuccessful the distension of the abdomen increases, vomiting ceases, and the patient dies of exhaustion.
5. The indications for treatment are, first, supportive measures; and, second, the use of the stomach-tube one or more times as early in the case as possible. Rectal feeding should be resorted to, and nothing should be allowed "by the mouth" until the vomiting has been nearly or quite controlled.
6. Treatment without lavage is unavailing, and the use of narcotics worse than useless. C.

A New Method of Disinfecting Large Rooms and Wards with Formalin

Dr. Hans Aronson, in a paper read before the "Verein für öffentliche Gesundheitspflege," at Berlin, on April 26, and published in the June number of *Zeitschrift für Hygiene und Infectionskrankheiten,* relates the various attempts that have been made to use successfully formaldehyd gas as a disinfectant. The attempt to use the commercial solutions of formalin as a source were a failure because as the solutions became concentrated by the applied heat paraformaldehyd was formed and finally appeared as a coherent mass in the bottom of the receptacle. An attempt to overcome this difficulty by using a mixture of formalin and wood-alcohol is dangerous and wasteful because of the spattering, it does not wholly prevent the polymerization, and it fails to produce a sufficient quantity of the gas within a short enough time to disinfect properly. The various lamps devised by Trillat, Bartels, Krell, Beuster, Schulze and others for converting costly wood-alcohol into formaldehyd gas have given unsatisfactory results. Only a small part of the wood-alcohol is converted into the gas wanted, and the experiments of Pfuhl have shown that a large number of such lamps must be used to effectively disinfect even a small room. The apparatus of Trillat is efficient but not safe to put into the hands of laymen. It is also too dear. The author next refers to his former reports on paraform as a source of formaldehyd gas, and shows that by the use of this in a lamp constructed at the chemical factory of E. Schering (Schering & Glatz, New York), he has had surprisingly good results. He finds that it is better to use compressed pastils of paraform than the powder in this lamp. In the accompanying illustrations two forms of this apparatus are shown; the one for generating small amounts and the other for use in large rooms and hospital wards. The lower part is the source of heat, and is filled with ordinary alcohol. The wicks are lit as in any alcohol-lamp. At the top is a receptacle for the paraform pastils. As it is open above the formalin-vapor escapes soon after the spirit-lamp below is lit. Every gram of paraform develops a gram of pure formaldehyd. When used the room must be closed as nearly air-tight as it can be made, by shutting up all windows, doors, registers and other openings. The author used a room 25 x 13 x 10.75 feet. Test objects were placed on the floor, at the ceiling, in the middle and elsewhere in the room. In every place the results were the same. The bacteria were invariably killed. For test objects he used staphylococcus, streptococcus, pyocyaneus, typhoid, diphtheria,



and tubercle bacilli, also anthrax spores. Control-experiments were made matching every test object exposed. In every case the exposed microbes were killed while the non-exposed control-tests retained their vitality. A large number of such experiments were tried and are reported by the author in detail. He concludes that for the disinfection of living-rooms there is no method that can compare in the remotest degree, as regards certainty and simplicity, with that by means of formaldehyd gas. For example, any one who has seen the process of cleansing walls by rubbing them down with bread, as carried out by the disinfecting corps, will agree that, however effective it may be from a theoretical point of view, it is absolutely inefficient in practice. The possibility of disinfecting rooms and all their contents with certainty by means of a simple, cheap, harmless, and easily managed method must be hailed as a great advance.

There is a further field for a smaller apparatus on the same principle in the deodorization of sick-rooms, water-closets, etc. This can be effected with the formalin lamp by the continuous development of small quantities of formalin, such as one tablet of 1 gme. (15.4 grains) in several hours. Such a deodorization is not a merely symptomatic one, like that done by means of the ethereal oils or essences, not a mere displacement of one odor by another, but is a chemical change of the bodies causing the odors. Formalin unites with most of the foul-smelling bodies (sulphuretted hydrogen, mercaptan, ammonia, organic bases, etc.) to form odorless combinations.[1] The smaller apparatus has been used for this purpose among others at the Lazarus Hospital in Berlin, and has done good service there.

Self-digestion of the Human Pancreas

It is known that the stomach occasionally digests itself, and it is also known that this may occur during life, in the death-agony and in the cadaver. For a long time it was suspected that something similar occurred in the pancreas, and H. Chiari (*Zeitsch. f. Heilk.*, XVII, 1; ref. *Schmidt's Jahrb.*, Bd. 254, 1897, p. 19) proved by numerous and careful researches that intra-vital, agonal and postmortem self-digestion not infrequently take place in this organ.. This author observes: "That perhaps in half of the deaths, the pancreas, at the time of death of the individual, possesses the power of self-digestion, be it in toto or in foci." Why self-digestion does not occur in every instance cannot be explained at the present time. Likewise, the exact explanation of the much more important intra-vital self-digestion of the pancreas is still wanting. Chiari observed the latter process in two cases; they had led to focal necrosis with reactive chronic pancreatitis interstitialis, and not as one would at first suppose, to a complete dissolution of the affected part.

Pleuritis Pulsans

Dr. Theodor Fuchs reports (*Ztschr. f. klin. Med.*, XXXII, 1897, p. 225) a case of pulsating pleurisy, and gives a résumé of what we know of pulsating pleural exudations. Apparently the pulsation can be originated in various ways. A strong cardiac pulsation is always essential. Very frequently the breast-wall is especially thin, the pleura costalis destroyed. This harmonizes with the fact that in the majority of the cases purulent exudations exist, and that rupture externally is by no means rare. In all other respects the exudation behaves as does the non-pulsating form.

Endocarditis

In a lecture on endocarditis, recently delivered by Dr. Lander Brunton, at St. Bartholomew's Hospital (*The Hospital*, No. 560, Vol. XXII), there were some "tips" which may usefully be remembered.

1. The first is the importance of keeping a careful watch on the temperature in this disease.
2. It happens that in endocarditis the temperature runs up occasionally for short periods, so that the curve may be very apparent in a four-hour chart, but may not show at all on any ordinary daily chart.
3. That endocarditis may occur from various causes, and one form, the microbial, or so-called ulcerative, endocarditis, is not infrequently mistaken for typhoid.
4. Hence the importance of making frequent observations of the temperature in doubtful cases of typhoid lest, perchance, it might happen to be one of endocarditis.
5. A four-hour chart may give a clue to the diagnosis in a case which might remain quite obscure if the temperature were only taken at night and morning.
6. Dr. Brunton says: "If you find a murmur at the heart, or even in cases where you find no murmur at the heart, if you find a temperature which runs a course very much like that of quotidian ague, in a case where you can trace no malaria, and where you even find no indication of suppuration, it is very likely to be endocarditis."
7. In these cases of malignant endocarditis give the benzoate of soda. V.

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[1] Schmidt, *Pharmac. Zeitung*, 1895. p. 55.

PEDIATRICS

EDWARD N LIELL, M.D., HERMAN B. SHEFFIELD, M.D., H. P. DE FOREST, M.D., H. T. HOTCHKISS, M.D.

A Simple Method for Removing Foreign Bodies from the Nasal Cavities of Children

According to Dr. G. Bieser (*Pediatrics*, July 15) the employment of the usual methods for removing foreign bodies from the nasal cavities in struggling children and without anesthesia is attended not only with the dangers from traumatism, but also with difficulty and occasional failure. The employment of serodynamics may overcome these objections. The method advised by the author is as follows: The child is placed in the ordinary position for intubation, the assistant holding his hand snugly over the child's mouth; one end of a piece of rubber tubing is snugly inserted into the nostril opposite the one holding the foreign body, the other end is inserted into the operator's mouth; the operator then blows suddenly and vigorously into the nostril and dislodges the offending body. The simplicity, cleanliness, and efficiency of this method are apparent, the child's struggles causing no traumatism. L.

Intracranial Sequelæ of Neglected Middle-ear Suppurations in Children

Dr. E. B. Dench, before the Section on Pediatrics, New York Academy of Medicine (*Pediatrics*, July 15), demonstrated by specimens that the external auditory canal in the very young infant was not a bony, but a fibrous tube, and that in order to inspect it properly, the auricle should be drawn downward and backward. He also called attention to the fact that the mastoid antrum was the only mastoid cell existing at birth. According to Dench, the complications that might follow suppuration of the middle ear were: (1) Sinus thrombosis, affecting usually the lateral sinus; (2) epidural abscess; (3) diffuse meningitis; (4) cerebral abscess. The gravest of all complications was general meningitis, and this was largely due to the fact that the diagnosis could not be made with certainty sufficiently early to allow of operative interference. His own experience with post-aural abscess had led him to attach more importance to it than did many writers. He felt that a physician should not rest satisfied until, in addition to opening the abscess, he had thoroughly cleansed out the mastoid process. There was danger of infecting the intra-cranial structures so long as any necrosed bone was present. The prognosis should be invariably favorable in inflammation of the middle ear if the conditions were promptly and efficiently treated. This statement held good even in cases in which the inflammation of the ear was associated with a severe form of some of the acute exanthemata. The accumulation of fluid in the middle ear quickly gave rise to a characteristic narrowing of the canal, obstructing the view of the lower part of the drum-membrane. If there was much tumefaction, a long, narrow knife should be used to incise the membrane, and then the incision should be enlarged upward, the knife being kept close to the bony inner wall of the middle ear. A mere puncture of the membrane was not sufficient. After incision, the ear should be irrigated with a 1:1000 solution of bichloride of mercury. L.

Nocturnal Frights in Children

Brann contributes to *Jourl. de Cliniq. et de Thérap. inf.* No. VI, p. 115, 1897) from *Jahrb. f. kinderheilk.*, January, 1897, the following opinions. They are manifestations of neurasthenia in children, a less rare condition than is generally supposed. The pathogenesis and etiology are differently interpreted by authors; but all agree that it is a condition of nervous children whose nervous system is weakened by hereditary defect or by acquired depreciation.

The sleep of these children is frequently interrupted by starts of alarm; the sleep is restless; the children move about a great deal and frequently change their position. They emit complaints which healthy children do not in their sleep. Their restless moving may or may not be interrupted by sudden awakening. Their sleep also, like that of neurasthenic adults, does not come easily until after long periods of sleeplessness. The deeper the sleep the less dreaming; hence their sleep is disturbd by dreams. All authors agree in this. Other symptoms common to them and adult neurasthenics are palpitation, cephalalgia and fatigue on slight effort. We know, besides, that neurasthenia is due to a diseased nutrition of the nervous system, chiefly anemia. Anemia is frequently met with in children subjects of this condition. We also know that certain affections, notably diseases of the digestive tract, which cause anemia, are often the cause of these nocturnal frights. The author refutes the idea that the nocturnal fright is a psychic malady: it is a neurasthenic state. When attacks are frequent, the author employs bromide of potassium, chloral, and quinine; when very frequent, quinine has been most serviceable, gr. ss to gr. iss per day. Warm baths 29° to 32° C. (82° to 89° F.) are useful. Stimulating baths are contraindicated. Iron is used. H.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D.. SMITH ELY JELLIFFE, M.D.

Tabes Dorsalis with Hallucinations of a Painful Character

Marcel Briand in *Ann. méd. Psych.* (No. 2, pp. 268-280, 1897) reviews the subject in connection with two new cases described in full. Hallucinations are rare in the course of tabes dorsalis. Horn reported the first description of a case of it in a paralytic in 1833. Duchesne in 1858 denied the existence of psychic troubles in tabes. Since then there has been no agreement on this point. This first case of hallucinations in tabes without general paralysis was published in Vienna in 1875 by Obersteiner (*Wien. med. Woch.*). They involved sight and hearing in an ataxic. The patient saw animals, "all the animals of the zoology," and heard voices speaking in his ears. In the same year Ph. Rey published in the *Annal. méd. Psych.* a memoir on the relations between locomotor ataxy and mental alienation, giving an account of two cases with hallucinations of sight, hearing and general sensibility. Mocli published (*Charité*, Vol. VI) several cases. Fournier, in 1882, in his treatise "On Locomotor Ataxy of Syphilitic Origin," emphasizes "cerebral exaltation or excitation in acute or subacute states of delirium, of true alienation, with hallucinations" as characteristic of a group of ataxics only less common than the form in which there is depression, where the ataxy is associated with paralysis; and he gives two new cases, one from Dr. Tennesson, of a syphilitic ataxic, who had maniacal excitation with hallucinations of sight and hearing; the other from Dr. Magnan, who also notes the multiple character of the hallucinations.

Prof. Raymond, in a discussion at the medical society of the hospitals in 1892, taking into consideration the syphilitic origin of both tabes and general paralysis and the common peritubular lesion in their histological processes, admits them to be one and the same affection.

Joffroy differentiates them: As tabes and general paralysis are hereditary affections, he thinks they virtually exist at birth; in one case the spinal cord is prepared for ataxy, in the other the brain for general paralysis; they are related, but distinct.

For himself and his intern, M. Cololian, the author gives two cases with hallucinations of a painful character like those in alcoholism. They are of two blind women who have had hallucinations of sight:

1. Marie B., 43 years, entered the Necker with bronchitis and was sent from there to Villejuif with this certificate: "Weakness of the faculties, hallucinations of sight and hearing; she sees crocodiles that want to devour her. Locomotor ataxia. Blindness."

Six years after, in August, 1896, the author saw her for the first time. She was medium height, well formed, face slightly asymmetrical, facies sad, features drawn, reserved and defiant, and would say nothing of her former life. She said, "It's my business to keep what you question me about." The husband is no more communicative, so that nothing is known of her life or personal antecedents. Her father and mother are dead; cause not known. It is not known if she had syphilis. The beginning of the tabes goes back six years; it commenced with lightning pains in the lower limbs, becoming constant. The sight has been affected for five years. It failed gradually. For three years she has been completely blind. The shooting pains and gastric crises ceased. The tendon-reflexes are gone. She has no trouble in standing and no Romberg sign. There is not much motor incoordination. Walking is difficult but not disorderly. Sensitiveness to pain on pressure is less than normal. She is not alcoholic; she drinks only half a litre of wine a day. She has no phlegm; no nightmare; no tremblings. A month after her entrance she still had her mental troubles. Her cerebral symptoms appeared two months ago, during which interval she had drunk only water. She sees serpents and crocodiles trying to strangle her. "A big serpent squeezes her body, she feels herself dying . . . crocodiles threaten to devour her, to throw her into the water . . . men make faces at her." One morning we found her in terror. She was talking to herself angrily and wished to flee. The fright lasted an hour. In the afternoon she told the orderly that her terror proceeded from the vision "of a serpent all green which was squeezing her." Taken with hallucinations a few days after, she beat the air with her hands as if to defend herself and frantically shook her handerchief. When calm she said that she saw a man with red eyes making faces at her and approaching her. These attacks take her three or four times a week, last quarter of an hour and recur the same day. On the days of her attacks her tongue is thick and furred in the morning. On her well days she has no views of serpents, crocodiles, or men making faces, and disclaims them as only hallucinations. She has no hallucinations of hearing. Memory is good. She presents no physical nor psychical sign of general paralysis. Heart and lungs are normal. Digestion is good, except on her bad days, when she complains of heaviness in the stomach and refuses to eat. There is no albumin, nor sugar. Her husband insisted on her leaving the hospital.

2. Ursale G., 55 years, entered the Villejuif in September, 1895. Father dead, cause unknown. Mother died in a provincial insane asylum. One married brother is living and in good health. All the other four brothers and sisters died young. U—— G. was in good health. She menstruated at 16 and married at 18. Her husband says she has always been a little sad, original, wild, and very jealous. Narrow-minded, she had a poor memory and could not read nor write. She has had two children, one dying two months after birth, the other living and having children. She disavows syphilis; but the family mortality is suspicious of it in heredity. The menopause came at 50; her sight was then good for distance and for near. In 1889 she perceived her sight failing. In 1890 she was no longer able to see. There was then no other sign of locomotor ataxy. Only two years later, the husband perceived that his wife "threw out her feet right and left without being able to walk." Blind and unable to walk, she lived in her arm-chair. In 1895 her intellectual troubles began with melancholy, suspiciousness, and the belief that efforts were making to poison her.

Her stature is small, she has turned gray, she is thin, and she presents a few marks of mental degeneracy. There is a slight facial asymmetry, an oval palatine vault and adherent ear-lobes. Since January, 1896, she complains of shooting pains in the limbs. She is bed-ridden since her entrance, but has no fecal incontinence. She has extreme inco-ordination of the legs, and has no judgment of relative positions nor weights. Westphal's knee-sign, abolished reflex, is complete. Perception of pain is diminished. Speech is without embarrassment. The pupils are unequal and immobile. There is pearly atrophy of the papillæ. Acuteness of hearing is lessened in both ears.

April 13, 1896, the orderly reported that she had had a very agitated night, with hallucinations of sight and hearing. Alcoholism was suspected, because her daughter had brought her a bottle of wine. Some days later a new crisis occurred, when wine was out of the question. Since then the hallucinations continue, recurring every eight or ten days; they had never been observed before that. After her hallucinations, on the 25th of April, she had extensive contusions of legs, thighs, and arms from hitting the bars in trying to get up during the night. The author was present during some of these attacks. She was on a street that she did not know . . . beasts and carriages were in the street. . . . She is afraid of passing carriages, afraid of being crushed; she hurries to cross the street. "Stoop down, madam, there is fire," they cry to her. She speaks to a child, "Hurry up, my little one." She sees dogs; is afraid of them; they are going to bite her, she cries, "Oh, the dirty beast of a dog," and strikes her pillow and covers, which are the dogs going to bite her.

She hears voices to which she replies, "Oh! yes, madam, I thank you, if you wish let us stay on the sidewalk."

Hallucinations of general sensation were manifest in speeches like this, "Who is it hits me on the back?" and she deals a blow in the air with her right hand. Varying expressions of fear and terror cross her countenance. If we touch her, for a moment she is free from hallucinations and asks naturally, "Who is touching me? Ah! it's you, doctor, I thank you, I get along well." But immediately she is gone again into painful hallucinations. These usually commence in the afternoon. Their aura is, bilious vomiting in the forenoon with anorexia, coated tongue and fetid breath; but there is no vomiting during the hallucinations which may last all night, after which she stops from sheer exhaustion. On awaking, she remembers but little of it all. Such is the character of these attacks which recur every eight to ten days. She presents no physical nor psychical sign of general paralysis. The delirium is not alcoholic. Her meagre intelligence has diminished still more during her illness. Heart, lungs, and kidneys are sound.

Is it really tabes dorsalis, or is it an alcoholic neuritis? In these two cases there are the lightning pains, difficulty in walking, the signs of Westphal, of Romberg, ocular troubles, psychic manifestations, etc., etc. The diagnosis is made on analysis of these:

They both present the Argyll-Robertson pupil which is not found in delirium tremens (alcoholic neuritis). Both have optic neuritis terminating in complete blindness at the end of three or four years. In alcoholic neuritis the enfeeblement of vision is never so pronounced and never causes complete blindness. Besides, in ataxic cases blindness is never recovered from, whereas in alcoholic neuritis the vision may improve after a time.

True inco-ordination of the legs is exceptional in peripheral neuritis. They have a special walk, described by Charcot as steppage, due to paralysis of the flexors of the foot found only in alcoholics. These two patients have the characteristic tabetic inco-ordination, but not steppage. They have no muscular paralysis; their muscular force is preserved in spite of the inco-ordination.

Digestive troubles are present in both kinds of disease, but in these two cases they are periodic, with all the characteristics of gastric crises, and not at all continuous, as they are in chronic alcoholism.

The hallucinations in both cases resemble those of alcoholism, but in the second case they come in the day, instead of night, as in alcoholics.

The hallucinations are always the same for each patient, in the one case serpents, crocodiles, and grinning men; in the other, horses, carriages, dogs, cats, etc.; but the peculiarity is that these come to them in their blindness; no luminous impression being borne to the cerebral cortex, no visual sensation can influence the brain. For those whose sight is good, some authors admit the sensorial theory and explain the hallucinations of sight and their origin by impressions on the retina, by luminous perceptions and also by false interpretations such as illusions. With M. Pierret and his pupil, M. Rougier, we might also say that they are perhaps only false hallucinations produced by irritation of peripheral origin, or even ganglioma. We might better evoke the cerebral theory, hallucinations consecutive to irritation of the centers of sight and hearing, and images in which the paths of association must be made to intervene; in a word, to admit the causes internal.

M. Bouchard instances the case of a blind tabetic who saw fire in a room where there was no fire, and who dispelled the illusion by closing his eyes. That experiment gave no result in these two cases. The regular periodic return of these hallucinations at intervals of about ten days, common to both cases, was further marked by the identity of symptoms at each return: Vomiting in the morning, delirium in the afternoon and night, and continuing for eighteen to twenty-four hours.

Gruet describes a case similar to these: A woman of 56 years, tabetic four years, had enfeebled vision in the left eye. From time to time she believed she experienced á general sense of heat lasting from five to eight hours, until after the crisis, when she would perceive the subjective character of the sensation.

To what is this state due? Prof. Bouchard a long time ago demonstrated the rôle of poisons from the intestine in hatching psychic and mental troubles. They are a permanent menace to the organism. In the present cases, is it a single intoxicant, or are there multiple toxins associated? Toxic products of disturbed cell-nutrition may also be present. We suspect auto-intoxication because the hallucinations are of toxic origin (motor, color, multiple, fear-causing, etc.). The furred and thickened tongue in these cases justifies the hypothesis. Their heredity, also, is doubtless a factor in the ease with which delirium affects them. H.

Chorea

In a lecture reported in the *Medical Press*, No. 3022, Dr. T. Simons refers to the rarity of true hemichorea, and argues that the invasion of the whole system is proof that the disease is not, primarily, a nervous one. If diseases of the nervous centre were the first cause of the malady, the lesion would always be bilateral.

The rheumatic character of the disease is demonstrated by (1) chorea affecting the same geographical distribution as rheumatism; (2) like the latter it is most frequent in cold countries, and shows its preference for damp seasons. Besides, if choreic patients are examined with care, it will be found that cardiac affections occur frequently, although they may not have had any rheumatic antecedents (cardiac lesions existed in 80 per cent. of Dr. Simon's cases).

As regards the treatment, he divides chorea into three periods:

Inception, characterized by the irritability of the child, and the commencement of involuntary movements. Admitting (it is the most probable notion to-day) that the choreic movements are due to hyperemia of the superior portion of the cord, it is rational to apply each day dry-cupping to the neck. At the same time, as the children are very excited, ten drops of tr. aconite daily, and when they are very agitated, chloral, bromides, or warm baths.

Second period—Antipyrin up to the present appears to be the best remedy; it should be prescribed in every case, and properly administered it is without danger; children bear it well, it diminishes the duration of the malady and the intensity of the movements. Ten grains should be given at the onset three times a day, and gradually increased until the amount of a drachm is attained in twenty-four hours.

Period of decline.—Tonic régime, warm salt baths, gymnastics, and arsenic and phosphate of lime alternately as follows:

Arseniate of Soda	1 gr.
Water	10 oz.

One teaspoonful after each of the two principal meals, to be continued for a fortnight, after which the arsenic is replaced for another fortnight, and so on.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D., DAVID M. STABLER, M.D.

Injuries to the Ankle-Joint

Dr. J. Garlan Sherrill, of Louisville, Ky. (*Intern. Jour. of Surg.*), publishes an article on this subject in which he states:

The ankle being a much-exposed joint, and constantly in use, is liable to any form of injury. The injuries vary from the simple contusion to the most extensive destruction of the joint.

The essential principle for treatment is rest and application of heat. When swelling begins to subside stimulating lotions, viz.: alcohol and ammonic chloride, may be employed; massage and strapping of the joint are also suggested.

For incised wounds of the ankle-joint, antisepsis, apposition of incised tissues, and rest were recommended; for lacerated wounds, hot irrigations, then rest and antisepsis; for gunshot wounds, remove foreign matter, and antisepticize. In severe injuries, if called upon to decide whether or not we should amputate, the author would always give the patient the benefit of the doubt, by attempting to save the foot by aseptic treatment wherever practicable.

Dislocation—The bones of the foot may be displaced in any direction. Frequently a fracture of the fibula or lower extremity of the tibia will be found present. In simple cases, without fracture, a fixed adhesive plaster; where fracture and dislocation exist, rest in splints is indicated.

Sprains—The pain and swelling arising from this injury are often considerable; frequently, if improperly treated, there results more or less permanent stiffness of the joint.

Some months ago the author suffered a sprain of ankle attended with considerable pain and swelling. Two days after the injury, a hematoma of considerable size formed in the joint. Hemorrhage was stopped by a tight cotton roller and immersion of the foot in hot water. He also applied the adhesive-plaster bandage, with instantaneous relief of pain.

A roll of adhesive plaster one-half inch in width and ten yards long, will be sufficient for the dressing. The bandage should begin on the dorsum, pass around the ball, over the instep, and around the ankle in a figure-of-eight, each successive turn overlapping the preceding one about one-third the width of the bandage, repeated turns being made until the joint is well supported, it usually being necessary to extend the bandage one and one-half to two inches above the malleoli, the heel remaining uncovered. This dressing should be applied immediately after receipt of injury, if swelling has not taken place. If swelling has occurred apply hot water for an hour or so, then apply dressing. In extensive injury to ligaments with fracture of either malleolus, rest in fixation-dressing might be necessary before the use of adhesive plaster.

This the author considers from results obtained to be superior to the plaster of Paris, and any other plan of treatment, saving the patient much disability and stiffness of joint.

Next in value to this treatment is the use of massage. An experienced masseur can prevent swelling, and in a short time restore the joint to its former condition, especially so in cases that have been improperly treated at first, and in which stiffness of greater or less degree exists. V.

A New Method of Treating Hemophilia

In treating a small wound of the face in a case of hemophilia, Dr. Bienwald (*Med. Chir. Cent.-Blatt*, No. 11, Jahrgang XXXII, p. 142) relates his experience with the usual remedies, viz.: tampons of iodoform gauze, absorbent cotton saturated with collodion, tampons of chloride of iron, and finally gauze saturated with oil of turpentine, and says that all these methods were of no avail. The thermo-cautery was not tried because of the locality of the wound. Having failed in every attempt, Bienwald bethought himself to try fresh blood from another person. He filled a hypodermic syringe with fresh blood and injected it into and upon the wound. The foreign blood coagulated immediately and the hemorrhage ceased forthwith. Bienwald thinks the coagulated blood acted as a thorough tampon, or else that the blood injected into the wound penetrated into the open vessels and supplied the needed ferments that were lacking in the boy. P.

The Treatment of Umbilical Hernia

Dr. Pierre Sebileau employs the following procedure for umbilical hernia in infants (*The Medical Week*, Vol. V, No. 1):

A five-franc piece is wrapped in a thin layer of cotton-wool, applied to the hernia, and kept in place by two long crossed strips of adhesive plaster. On top of this is placed a thick layer of absorbent cotton, above which a towel is tied securely. Every morning and evening at least, the mother changes the dressing and carefully cleanses the skin, applying to the latter a thin layer of vaselin, after having first washed it with water mixed with alcohol. The place of attaching the adhesive strips should be changed each time.

Unless there are contra-indications, Dr. Sebileau is in favor of the operative treatment of every umbilical hernia, even in grown-up children and adolescents, since such herniæ have a tendency to increase in size and become irreducible. He recommends the following rules:

(1) Insist upon operation for irreducible umbilical hernia in cases in which there have already been symptoms of impermeability, for operation under such conditions is indispensable; (2) prescribe operation for irreducible umbilical hernia in cases in which there have as yet been no acute symptoms, for operation under such conditions is a necessity; (3) solicit permission to operate for reducible, but incoercible umbilical hernia, for operation under such conditions is beneficial; (4) advise operation for a reducible and coercible umbilical hernia, for operation under such conditions is advantageous. In any event, the existence of pain, of whatever variety, caused by the hernia, and a wish expressed by the patient for various reasons, are indications for operation, which a surgeon will do well not to overlook, as they lessen his responsibility in case of a disastrous result.

From a surgical point of view, there is no comparison between a reducible umbilical hernia of recent development, in which the operation, consisting in reduction of the contents, dissection of the hernial sac and restoration of the abdominal wall, is very simple, and an old-standing irreducible umbilical hernia, in which the operation is extremely difficult. Each variety must be treated by a different method of operation. In the former case, it is sufficient, after resection of the neck of the sac, to place a suture on the abdominal wall and skin, whereas, in the latter case, a segment of the abdominal wall and skin must be removed, in other words, omphalectomy must be performed. C.

Skiagraphy—Aortic Aneurism

Dr. Wm. Pepper shows (*Univer. Med. Mag.*) the value of this in medicine, in distinction from surgery. This agent confirms the diagnosis made by percussion and auscultation. Certain cases of aortic aneurism which cannot be diagnosed by ordinary methods, may be demonstrated by X-rays. In cases symptomatic of aneurism, employment of the X-ray may show no increase in shaded form of heart and aorta. Diagnosis by exclusion may therefore be greatly aided.

Case 1. Age 40, family and personal history good, no venereal infection nor alcoholic excess. Popliteal aneurism operated upon successfully by double ligation and excision. Patient complained of sore throat and cough and choking feeling, with dyspnea and headache. Turning on his back or right side caused violent inspiratory dyspnea and gasping cough. Respiratory movements were greater on the right side, the left side of the face was swollen and the left pupil contracted. Fremitus diminished over the left chest. There was a strong pulsation over the upper sternal region with a faint thrill. There was distinct tracheal tugging. The radial and femoral pulses were synchronous. The cardiac dullness extended from the third interspace outside the left nipple transversely to the sternum and up to the second costo-sternal junction. The upper part of sternum was dull, this extending one inch to right of margin of this bone. Breath-sounds over the right lung were exaggerated, over the left lung the breath-sounds and vocal resonance diminished. At the apex the first sound was rough, the second reduplicated. Over the base there was a loud, harsh systolic murmur, heard over the entire upper chest, loudest at aortic area and one inch to right of it. The second sound was accentuated. Systolic murmur and accentuated second sound were heard in the midscapular region. Laryngological examination showed the left vocal chord motionless on inspiration. Later the voice became huskier, the breathing more labored, the breath-sounds on left side more faint, and the left face markedly swollen. Chest-pains were only of moderate severity. Dysphagia was partial. Urine normal. The blood showed hemoglobin, 80 per cent.; red cells, 4,860,000; leucocytes, 7,300. The count of leucocytes was, polymorphous, 79 per cent.; oxyphilic, 2.5; mononuclear, 9.5; lymphocytes, 9. A double-cathode X-ray tube over the median line of the chest, fifteen minutes' exposure, showed a non-penetrable area in the upper sternal region above and to right of the heart-shadow, viz., the aneurism.

Case 2. The physician was consulted for cardiac distress and dyspnea. Ribs and sternum were prominent. Veins over the upper chest and region of the diaphragm were distended. Abnormal pulsation was present at the base of the jugular fossæ. The pupils were normal, the vocal fremitus increased over right apex. There was abnormal pulsation in the second interspace to the right of the sternum. Pulses were synchronous and equal. A dull area was in the right apex. Cardiac dullness extended from the mid-sternum to the nipple-line in the fourth interspace and thence to the juncture of the second rib. From here the area of dullness extends up beneath the manubrium and to the right one inch beyond the sternal margin. Auscultation showed dry râles on both sides, breath-sounds weak, especially over the left lung; vocal resonance increased, expiratory murmur prolonged in right apex, first mitral sound loud and split, systolic murmur over the area of dullness, on the right of the sternum; aortic second sound accentuated. X-ray showed extension of aneurism to the left.

Case 3. Here physical signs varied at different times, with no distinct evidences of aneurism at any time. X-ray failed to bring out area of opacity corresponding to the dullness of percussion. It is claimed that tuberculous deposits in lungs can be seen through fluoroscope. Mediastinal conditions are different.

Case 4. Aneurism of innonimate artery, which skiagraph shows definitely with six minutes' exposure.

The Charcoal Dressing in Military Surgery

Dr. S. Sherwell, of Brooklyn, in a paper on this subject (*Med. Rec.*, January 30, 1897), says that the successful use of charcoal as a surgical dressing, recently so strongly advocated by Dr. Kikusi, of the Japanese Army, and which has been noted in many journals, impels the writer to reassert his claim of original suggestion of this manner of treatment of wounds in military surgery.

Dr. Sherwell's original article was published in the *New York Journal and Obstetrical Review* for October, 1882. It had been read the year previous in the surgical section of the International Medical Congress, held in London, an abstract appearing in the published transactions of that body in 1881. It was entitled "A Ready and Convenient Antiseptic Dressing for Amputation and Other Open Wounds in Field Surgery."

To show that this method was and is identical with that of Dr. Kikusi, the author quotes from his original paper thus: "I believe a large amount of these septic complications is due to direct infection"; and after some explanatory remarks, he urged the following substitute for the ordinary bandaging: "Among almost all continental nations charcoal is largely used, and everywhere available and easily obtained; I would suggest, then, after operation, the instant envelopment of the wounds, particularly those of the limbs, and especially, as I think, those of the lower limbs, in a sac or bag (a common, small pillow-slip would serve) of charcoal, finely pulverized; a fair excess of this to be used, so as to shield and envelop the tissues; the charcoal to be either directly laid on the wound or mediately, a fold of some dressing, gauze, book-muslin, or the like being applied next the surface; this not to be removed for days at a time, except under pressing necessity, and then preferably by a jet of water from some clear source; the same form of dressing to be reapplied thereafter if fitting."

The author has not been able to discover anywhere that charcoal has been recommended in the way and to the excess which he advocated until reading Dr. Matignon's article descriptive of Dr. Kikusi's method. Hence he must claim originality for the suggestion; in fact, Dr. Matigon, as well as the journals—for instance, *La Méd. mod.* (May 6, 1896)—speaks of it in language that implies nothing else.

The kind of charcoal used by Dr. Kikusi was made by carbonization of rice-straw (in the ordinary way of preparing charcoal). This substance was used, because of the absence or scarcity of wood in certain parts of China. B.

Surgical Uses of Picric Acid

C. M. Allan (*Brit. Med. Jour.*, Feb. 20, 1897), when experimenting with various therapeutic agents, has used picric acid (a concentrated solution in rectified spirits diluted with two parts of distilled water, and applied with a spray), and found it the most successful in allaying the irritation and stopping the discharge, and irritation from the discharge, from eczematous and ulcerated surfaces.

In the case of ulceration or eczema, or of ulceration and eczema of the leg, it is, subsequent to the application of the acid, covered with a medicated adhesive plaster.

In recent wounds, with or without great loss of substance, this treatment is equally beneficial, and is not so troublesome nor so unsuccessful as skin-grafting, where the size of the wound would render that advisable.

In cases of severe cellulitis arising from the introduction of some irritant poison, and when incision or amputation is necessary, the bleeding from the paralyzed and dilated radicles becomes almost uncontrollable. If the incision is packed with gauze wrung out of the picric solution the bleeding is soon controlled. For the oozing after the amputation the spray is much more successful than hot water, yet a combination of both may be used with great advantage, the water being used first (as it would decompose the acid if both were combined), and the spray applied immediately after.

B.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N. Hoople, M.D.,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Extraction of the Transparent Lens for Extreme Myopia

M. Panas, in *Recueil d'Ophthal.* (No. 1. pp. 54-57, 1897), considers the above subject. The lamentable state to which myopes of sixteen or more diopters find themselves reduced, the dangers which they undergo from detachment of the retina and macular apoplexy and the evident insufficiency of correction by glasses, led surgeons and ophthalmologists to ask if myopia could be remedied by operation. Noticing that removal of cataract in myopes gave them distant vision, the Abbot Desmonceaux, a philanthropic physician rather than an oculist, advocated in 1776 removal of the transparent lens in treatment of myopes of two or three inches focus.

Until quite recently, in spite of Young's clear teachings, the power of accommodation was attributed to the extrinsic muscles (the recti and oblique), which might cause myopia by elongating the globe. Hence tenotomies were done by J. Guérin, Bonnet, etc.

. Helmholtz's demonstration that the lens and the ciliary muscle were the sole agents of accommodation caused abandonment of tenotomies for myopia. But the reasons against tenotomies on this account will not hold against etiology nor against surgical interference for removal of the lens. Panas agrees with Guérin and others that extreme convergence plays a preponderating part in the evolution of progressive myopia.

Beer referred to the removal of the transparent lens in 1817. Weber again brought it up before the Congress at Heidelberg in 1858. But the procedure gained no headway until Ruiz and Koenig advocated it in 1888. In that same year Fukala presented two young patients before the Medical Society of Vienna, operated upon successfully by discission, and in 1890 he published nineteen similar cases in persons under 24 years with more than 13 D. of myopia.

In the case of a young man of 16 who had 22 D. of myopia in the right eye and 16 D. in the left, who even with glasses could not see well enough to follow any trade, Panas, after assuring himself that the fundus was normal, did an iridectomy of the right eye, followed that by discission and extraction, and gained a state of 1.25 D. of hypermetropia with +.75 D. astigmatism in the rule. The visual acuity one-third, permitted him to see at a distance and read without the least fatigue. One year and eight months after, on the solicitation of the patient, he did discission and extraction on the left eye without iridectomy. The result was the same degree of hypermetropia and astigmatism as obtained in the right but greater visual acuity owing to the integrity of the pupil, so that he could see satisfactorily far and near without a glass. A year later the visual acuity was still satisfactory, but the fundus showed developing crescents on the temporal side of the discs, though in aphakic eyes, not refracting. This fact, confirmed by similar cases, is diametrically opposed to the theory of those who think refraction plays the most important rôle in the progress of the myopic staphyloma.

From a total of 400 or 500 cases of lens-extraction in myopia, carefully compared, we can draw a certain number of conclusions largely favorable to this intervention.

It is perfectly justifiable in high progressive myopia from 16 D. upwards, where the visual acuity may be serviceable for the individual's occupation, which presupposes absence of macular lesions, transparent media and freedom from amblyopia (by strabismus or otherwise).

For the same degrees of myopia, the operation is the more indicated the younger the individual, experience having shown how much is to be feared then from such grave complications as synchisis, atrophy, and apoplexy of the macula, disseminated choroiditis, cortical cataract and, above all, spontaneous detachment of the retina.

The operation is not free from miscounts. The percentage of failures may even be greater than appears from the published statistics. Nevertheless, the gravity of complications to be dreaded in unrelieved myopia ought to commend the operation even at the risk of failure, which, after all, is exceptional and will become rarer with greater care in antisepsis and in rejection of unsuitable cases. For most patients atrophic choroidal lesions will be contra-indication only when they involve the macula, or are accompanied by detachment of the retina. H.

Deafness of Genital Origin

P. Bonnier writes in *Revue Internat. de Rhin. Otol. et Laryng.* (No. 3, p. 107, 1897), that he has met three cases of deafness associated with genital troubles of different nature. Deafness found in subjects of onanism and in certain degenerates is accompanied by a generalized clouding of all the sensorial functions and a deep voluntary mental depression. Two of these cases were not in subjects of onanism, and the third retained normal brightness and intelligence.

1. A boy of 13 years for several years had been affected with intermittent deafness, and been variously treated therefor. At first he appeared absolutely deaf, but he was less and less so when his listening attention could be awakened indirectly, and after a while maintained until the smallest sounds could be noticed. There was no lesion at all in the peripheral apparatus. The simple fault was in the absence of attention. There was hysteria, no epilepsy, no onanism, but there was a left inguinal ectopia.

2. A girl of 22 years had been carefully treated several years for the same symptoms. There was no trace of neurosis. The father and mother confessed that their daughter had for years practiced ungovernable masturbation, to which they attributed her deafness. The girl was very intelligent, gay, and frank, and presented no signs of habitual onanism except great failure of memory, and this deafness of the same character and behavior as that in No. 1.

3. A boy of 9 years had a little deafness of less intensity. There was no organic trouble, no functional defect, no nervous waste. But the boy was feeble, poorly developed and of tuberculous stock. The mother drew attention to absence of one testicle.

These three patients alike had complete organic and functional integrity of the peripheral auditory apparatus, but all presented in varying degrees the same absence of auditory attention on both sides alike. There was no trouble in other functions except memory. Hearing was normal but not perceived, it was like a photographic negative undeveloped. The attention was forced by a kind of reflex, acting upon a normal auditory apparatus.

In the case of onanism there might have been nervous drain, but why so strictly localized? In the other two cases it is not a matter of arrest of functional development, since the hearing was perfect, once attention was fixed. Why the remarkable coincidence? H.

Ozena Treated by the Serum Method

In a paper on this subject, presented to the Spanish Oto-rhino-laryngological Congress (*Arch. Lat. de Rin., Lar., Otol.*, April 6, 1897), Dr. C. Conpaired rehearses this method of treatment, and formulates as follows:

1. That up to the present time this constitutes the most effective therapeutic treatment of ozena.

2. That the brilliant result obtained is revealed subjectively by the disappearance of the nasal odor, following the second or third injection of 4 to 6 c.c. of serum recently obtained, and performed with strict aseptic and antiseptic precautions; and objectively, by the lack of dryness in the nasal fossæ, with diminution in the crusts and increase of the fluid nasal secretion.

3. That, objectively, a change is noticed in the color of the mucosa, which appears pinkish, somewhat moist, and slightly swollen, and hyperemic.

4. That the crusts become less hard, dry and decrease in size, increasing in fluidity with the increase in the number and doses of the injections.

5. That the dose of 10 c.c., advised by Gradenigo, and even of smaller amount, is not free from danger, and for this reason it is advisable to use it in increasing proportions, exercising great care.

6. The author does not regard the aforesaid treatment exempt from inconveniences and danger. It has afforded, however, the best results, and for this reason it is advisable to study further its efficiency. B.

Origin and Significance of Papillitis in Intracranial Tumor

In a paper based on the histological examination of three cases of brain-tumor, and on the analysis of the writings of some of the many authors who have dealt with this subject, Emil I. Grósz (*Ophth. Rev.*, Feb. 1897) expresses his views on the pathogenesis of papillitis, as follows: The papillitis of intracranial disease should be considered in two groups: (1) those cases in which it is due to obstruction to the circulation; (2) those in which it is primarily an inflammatory process.

The author holds that in cases of tumor of the brain the papillitis is caused by obstruction to circulation, in other words, that the condition is one of "choked disc;" that in cases of tubercular or gummatous intracranial lesion the condition is one of genuine inflammation. He thinks that in the early stages the ophthalmoscopic appearances in the two classes are sufficiently characteristic to enable a differential diagnosis to be made. In the first group (obstruction-cases) the papilla, though sharply prominent, remains fairly transparent, the veins are greatly distended; in the second (inflammatory cases) the veins are obscured by exudation, and the inflammatory signs extend into the surrounding retina. Visual acuity in the choked-disc cases is but little, if at all, impaired in the early stages; in the other group it fails quickly. In the later stages these distinctions cannot be demonstrated. B.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M D., HOMER E. FRASER, M.D.

Treatment of Syphilis

Dr. W. A. Hackett (*Physician and Surgeon*, Vol. XIX, No. 5) concludes as follows:

1. The aim in the treatment should be to avoid or minimize dangerous structural changes in important organs, to give a benign character to the disease, and to leave the system in about as normal a condition as it is after such acute diseases as scarlet fever, variola, etc.

2. That pain in the muscles and joints, the general weakness and concurrent symptoms in syphilis, are due to the intoxication from the toxins and not from the organisms direct.

3. That syphilis is a serious disease because of the deformities which may be fatal conditions, such as myelitis, meningitis, etc.

4. Though text-books divide the disease into stages, it should be looked upon as a continuous process.

5. The malignancy of the disease depends on the soil, not on the amount of inoculation, and dangerous conditions may exist without any severe external lesions being visible.

6. An important point in the treatment consists in preventing, if possible, the untoward results of lesions by pushing the remedies.

7. Existing lesions should be treated to lessen the danger of contagion, to remove deformity, to save tissue, and to diminish the normal duration of the contagious stage. It is much better to prevent lesion-formation than to wait until the lesions have formed and then commence treatment for their removal.

8. Treatment should be directed toward diminishing the amount of the virus produced, and to aid in its elimination or to render it innocuous as long as the organisms are present.

9. As far as is now known, two drugs only have any special action on this disease —mercury and the iodides. Mercury is directly antagonistic to the organisms. A solution of 1-1000 of bichloride added to a drop of pus from a chancre destroys the organisms. Potassium iodide will not do this, but has the effect of aiding cell-metabolism, and in some way assists in the elimination of the virus.

10. Judging from clinical experience, it is not possible to kill all of the organisms in the body; they are scattered throughout the whole system. Their action may be inhibited, their toxins lessened, and it is possible to postpone or entirely prevent the formation of lesions.

11. It is not correct to put the patient under active treatment for thirty days and then allow him to go untreated until symptoms reappear, as a reappearance of the signs means serious tissue-injury. In this sort of treatment one is simply repelling attacks, not causing an offensive warfare against the organisms. Such treatment will increase danger of tertiary lesions.

12. Irritative lesions often occur late and may be seen on lips and tongue of those who use alcohol. Another example is the occurrence of parasitic lesions in the skin. Such are the results of dyscrasia—not syphilitic poison—and they are not cured by antisyphilitic treatment. Their removal is aided by giving that which will bring about a normal condition of the system. Remedies as the iodide which restores a proper action of the glands, will aid in the removal of such lesions. V.

Recurrent Herpes Zoster, with Remarks on Its Etiology

Dr. George Pernet (in the *Brit. Jour. of Derm.*, May, 1897) relates the history of four successive attacks of zoster. The first occurred in December, 1891, and was a right intercostal zoster. The second, a year later, was about the angle of the right jaw. The third, February, 1896, was also on the right side of the face. The fourth attack, November, 1896, was over the right temple. Since the last attack the patient's vision has been somewhat defective.

In summing up the etiology, the doctor concludes that this case of zoster was produced by traumatism and an uncorrected error of refraction of both eyes, and suggests that the latter is a possible etiological factor in the production of all three of these attacks (those affecting the face). S.

Vanilla-eczema

At a recent meeting of the Physicians' Society in Hamburg (*Berl. klin. Woch.*, XXXIV, No. 23), Dr. Arniny presented a case of obstinate eczema in a vanilla-packer. All workingmen who are occupied in the assorting and packing of vanilla-beans are subject to it. In from two to three weeks after entering upon this occupation, the face and the ears begin to itch, then the arms, legs, etc. An acute eczema develops, which disappears in a short time; then there is absolute immunity. But in some rare cases the eczema is so obstinate and persistent that the workingmen are obliged to look for another occupation. M.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

Pericranial Cellulitis and Cephalhematoma Consequent Upon the Use of High Forceps in a Moderately Contracted Pelvis

Liell (*Arch. of Pediatrics*, March) reports in detail, an instructive as well as interesting case of the above, occurring in a primipara, aged 21 years—Vertex presentation, R. O. A. First stage dilatory, pains of feeble expulsive power. Fetal head disproportionately large to diameters of pelvic bone, latter somewhat contracted. Because of inertia high forceps were applied preferably to version, the head when delivered being elongated to double its diameter. The maternal tissue was but slightly lacerated, convalescence being rapid. The day following delivery, evidence of infiltration of the tissues of the scalp presented itself, embracing the occipital and posterior left parietal regions, the reasons being that these regions received the greater portion of the impact of force during descent and rotation, and the strong and long-continued pressure of the forceps. A pericranial cellulitis, with suppuration, subsequently developed, associated with sympathetic laryngitis and aphonia. To anticipate more extensive suppuration, a free crucial incision, with two counter-openings, was made, the wound irrigated with peroxide of hydrogen and packed with strips of iodoform gauze. The discharge being very profuse, the dressings were changed daily at first. Some hours subsequent to delivery a cephalhematoma was apparent over and to the right of the posterior fontanelle, which, because of the region, gave thought at first of a hernia cerebri. The hematoma gradually increased in size, attaining its maximum on the tenth day, being then the size of a small orange. Its decrease was gradual, evidence of suppuration, however, being detected on the twenty-third day, when a free incision was made and a quantity of the pus evacuated. There was also associated a delayed union of intra-parietal suture, a groove of about one-quarter of an inch in diameter being traced by the fingers between the parietal bones. Mention being made by more than one writer that in cephalhematomata a pre-existing malnutrition is the basis of its etiology, the author concludes that such cannot be ascribed to the case in question, since the child at birth seemed well nourished, its weight being 9¼ pounds, the mother also having been perfectly well and healthy in every respect, suffering no discomfort even during the many months of gestation. In reference to pericranial infiltration and suppuration, the author calls attention to the fact that, in infants, the pericranium is but loosely attached to the skull, and any undue or long-continued pressure, due either to the forceps or to the bony pelvis, especially if the latter be contracted, as in the case narrated above, may readily cause rupture of the subcutaneous tissue and consequent inflammation and possibly suppuration.

Removal of Diseased Ovaries, Tubes, Etc., by Enucleation with Ligation of Vessels Only

Dr. J. Coplin Stinson offers a contribution on the above subject (*Charlotte Med. Jour.*, May, 1897), and concludes:

1. That irreparably diseased tubes, ovaries, etc., should be removed by enucleation with ligation of vessels only; using absorbable ligatures.
2. That enucleation is the simplest, safest method of removing an ovarian cyst, tumor, etc., of the ovary, tube, uterus, etc. There is no danger of hemorrhage, if a vessel is severed it can be caught at once and ligated.
3. That as no untoward symptoms follow enucleation, there are no secondary operations necessary.
4. That the ligation of vessels only does away with the tieing off in sections, the tieing and transfixing of pedicles, mass, non-observable, dead, and wandering ligatures, sloughing, painful and adherent stumps, pelvic exudates, adhesions, the cautery, etc.
5. That with enucleation there is little or no danger of injuring adjacent viscera, recovery is rapid, and the danger of sepsis is reduced to the minimum.
6. That when a Fallopian tube is removed it should be completely, no stump being left. When the serosa of the tube at the tubo-uterine junction is not totally destroyed, it should be divided in a circle above one-quarter of an inch from the uterine cornua, dissected back to the uterus, and after the removal of the tube, the cut edged united by a continuous fine catgut suture.
7. That in removing an appendage, or uterus, by enucleation, the cut edges of the broad ligament should be united with a continuous absorbable suture.
8. That even when both the appendages are removed, a uterus that is in good position and not irreparably diseased should not be extirpated.
9. That it must not be forgotten that at times enucleation is difficult. Under such circumstances the surgeon should first sep-

arate the adhesions; then enucleate the mass, so as to expose the pedicle, which is clamped with long forceps and then cut across, close to the uterus, between the mass to be removed and the clamps. The forceps are used as temporary hemostatics, levers, and tractors while the vessels are ligated separately with fine cat-gut. Thus they are an addition to the enucleation method. B.

Method of Curing Prolapse of the Uterus

Professor Gubareff, of Ureff (*Vratch*, No. 13, 1896; ref. in *Brit. Gyn. Jour.*, Part XLVIII, p. 618), uses the following method for treating prolapse of the uterus. After having amputated the hypertrophied cervix, if this be necessary, he prevents the prolapse of the uterus by the following method of submucous suturing, which is carried out with a straight needle and silkworm-gut sutures. About the level of the anterior fornix the needle is introduced into the submucous cellular tissue transversely and to one side, and this is brought out three centimeters away. Then the needle is re-entered at this point of exit and carried longitudinally down to about the middle of the anterior vaginal columns, and being brought out, is re-entered at once to pass transversely out parallel with the first course; it is then again re-entered and brought out at the original puncture. Thus a four-angled track is formed which has been followed by the needle and suture in the submucous cellular tissue of the anterior vaginal wall. Exactly the same procedure is carried out on the posterior wall. When the second suture has been passed, both are drawn tight, and upon this the uterus as drawn up is fixed in position. The operation is painless and requires practically no convalescence. The sutures can be passed differently, according to conditions in different cases. In this way the various plastic operations may be avoided. This method enables the patient to bear children afterward without difficulty, which is not the case with Freund's and Jacob's operations, after which the author has had to cut out the circular fixing suture so as to remove obstruction to delivery. P.

Partial Abortion—Expulsion of the Amniotic Sac Alone

Dr. William C. Stevens, in *The Inter. Jour. of Surg.*, Vol. X, No. 5, p. 138, expresses the opinion that the membranes are retained in more than one-half of all deliveries occurring before the end of the third month, and during the first six weeks a larger proportion than this is retained. This opinion is based upon observed cases, and from the history of diseases clearly traceable to a recent miscarriage in which there was only a record of an excessive menstrual flow at or shortly after a regular menstrual period.

The specimens presented by Dr. Stevens are, he states, the result of letting nature take its course, and in this way he has found that in about one-half the cases all the membranes are retained, and in about 25 per. cent. of the cases the amniotic sac is expelled without the chorion. In the largest specimen the amniotic sac was expelled, leaving behind a well-formed placenta.

Dr. Stevens concludes as follows:

The remote effects of a neglected miscarriage are extremely disastrous and are not so amenable to treatment as disorders following delivery at the full period of gestation.

1. Subinvolution; owing to the imperfect development of uterine muscles after an abortion the process of involution is slow and less perfect than after normal labor.
2. Anemia due to loss of blood, and septic infection through the slow absorption of poison from the uterus.
3. Acute and chronic inflammation of the uterus and its appendages.
4. Moles, due to retained membranes.
5. Disorders of the nervous system from local irritation.
6. Secondary infection of distant tissues.

With such an array of misfortunes confronting the victim of a partial or incomplete miscarriage, it becomes us to exert our utmost endeavor to prevent them.

First: We should educate our patients to the danger of neglecting miscarriages occurring during the early months of gestation.

Second: The practitioner should neglect no opportunity to perfect himself in the science of diagnosticating the period of gestation and the age and general appearance of the fetus and its envelopes at each stage of gestation, so that he may know when the abortion is complete.

Patience and a tampon will complete many a miscarriage, the tampon to control hemorrhage and excite uterine contractions, patience to wait for the expulsion of the membranes.

The finger may be used in cleaning out the uterus, but like instruments, it will not meet all the requirements of everyday practice. A curette should always be found among your instruments.

Absolute rest in bed for a period as long, if not longer, than at the full period of gestation, with a nutritious and easily digested diet, will restore the majority to perfect health. C.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Arsenic-Poisoning by Carpets and Wall-Papers

Discussion has been carried on in the *Berichte* (ref. in *Science*, June 18, 1897) between Dr. Emmerling, of Charlottenburg, and Dr. Gasio, of Rome, as to the cause of poisoning from fabrics, as carpets and wall-papers, containing arsenic. Several moulds are known to flourish on media containing solid compounds of arsenic, among them Mucor mucedo and Aspergillus glaucus. In Penicillium brevicaule Dr. Gosio finds a mould which, grown on a medium containing arsenic, evolves a volatile substance with the characteristic garlic odor of volatile arsenic compounds, and which was instantly fatal to a mouse. The nature of this compound is, however, undetermined, and Dr. Emmerling doubts its existence. His doubts are based on the fact that he has obtained no evidence of its existence, using the mucor and the aspergillus, though he has not experimented with the penicillium. It is to be hoped that others will succeed in obtaining the volatile arsenic compound if it really exists, and settle finally this long-controverted point in toxicology. B.

The Influence of Environment Upon the Biological Processes of the Various Members of the Colon Group of Bacilli

From an experimental study Dr. Adelaide Ward Peckham (*Science*, June 25, 1897) is inclined to regard the typical colon bacillus as the type of this group, for the reason that its functional equilibrium, as observed in the intestine, is so permanent a quality that it may readily be perpetuated under what are ordinarily regarded as favorable artificial circumstances, and that with the continuance of such conditions there is no conspicuous tendency on the part of this organism to deviate from what we regard as its norm.

When the members of the colon group are cultivated under circumstances favorable to the development of both fermentation and proteolysis, the former invariably takes precedence and no evidence of proteolysis is manifested until after fermentation has ceased.

The cultivation of all the members of the colon group, under circumstances that favor the development of proteolysis, at the expense of fermentation, results first in apparent increase of vigor; but this is of temporary duration and is quickly followed by the decline and death of the cell.

The result of this increase in proteolysis is the formation of much larger amounts of indol by typical colon-culture than has been obtained by the author by any other method.

Indol-formation was induced not only in typical colon bacilli that have been devoid of it, but in every specimen of typical typhoid bacilli to which the writer had access as well.

The author feels justified in regarding indol-formation as a differential test of questionable value, for the reason, as shown above, that by particular methods of cultivation it has been shown to accompany the development of a number of specimens that the writer has every reason to regard as genuine typhoid bacilli.

As the result of the author's experiments, together with the observations of others, there can be no doubt that the Bacillus coli communis at times possesses pathogenic properties, and that by artificial methods of treatment it may often be brought from a condition of benignity to one of virulence.

The spleen of a typhoid patient has always been regarded as the only trustworthy source from which to obtain the typical typhoid bacillus. While the writer believes this to be true, still investigations show that other members of the colon group may also be present in this viscus; in fact, from such spleens the writer has isolated practically all of the varieties of this group.

From the author's experience the value of the serum test for the differentiation of typhoid and colon bacilli would seem to be questionable. The writer is inclined, however, to attribute the irregularities recorded above as due more to the method of application than to defects of the principles involved; for, as stated, by the use of dried blood, as in the experiments made, it is not possible to make the test with constant and accurate, or even approximately accurate, dilutions of the serum. The irregularities may be in part due to this defect. B.

The So-Called Bacillus Capsulatus Mucosus

At the suggestion of E. Fraenkel, C. Fricke made a special study of the capsule bacilli. He determined (*Zeitsch. f. Infectkh.*, XXIII, 3; ref. *Schmidt's Jahrb.*, Bd. 254, p. 15) that the chief representative of the group of capsule bacilli, Friedlaender's bacterium, occurs in the most varied affections and localities, and is, therefore, not specific for any distinct disease. The ozena bacillus, which is identical with Friedlaender's pneumobacillus, was also found by Fricke in the absence of ozena and, likewise, in the most varied portions of the body. The capsule bacilli which produced a typical septicemia in inoculated animals, could be found in the blood in pure culture, most numerous in the spleen, though also within the blood-vessels of the lungs, liver and kidneys. One group of the mucosus species invariably killed white mice after subcutaneous inoculation of small doses; a second group produced this effect but rarely or not at all. Infection can, however, take place by way of the digestive tract; for it was found that the inoculated capsule bacillus could readily and always be detected in great numbers in the mucus of the catarrhally inflamed small intestine. The Bacterium lactis aerogenes, which is very closely related to Friedlaender's pneumobacillus is, according to the author, of as little specific significance for gastro-intestinal affections attended by vomiting and diarrhea, as is the ozena bacillus in ozena. Both capsule bacilli simply find the most favorable conditions for growth in the localities where they are found, the one in the mucus deposits of ozena, the other in the intestinal mucus.

Argon

According to *Science* (June 18, 1897) observations appear to show that the proportion of argon in exhaled air is slightly less than that in inhaled (1.21 per cent. as against 1.186 per cent.). It had been suggested as possible that argon formed a compound with the hemoglobin of the blood. This seemed the more probable from the fact that when analyzed by the Kjeldahl method, where the nitrogen is converted into ammonia, the amount of nitrogen obtained from hemin is less than by the Dumas method, where the nitrogen is measured absolutely. In the last *Berichte*, J. Zaleski, of St. Petersburg, describes careful examination of preparations of the coloring matter of the blood, but in no case was a trace of argon found, so that some other explanation must be sought for the analytical differences. B.

Soap as a Disinfectant

In order to harmonize the various pros and cons upon the value of soap as a suitable means of disinfection for the hands and clothing, R. Reithoffer undertook a series of experiments (*Arch. f. Hyg.*, Vol. XXVII, p. 4). As a result of his experiments with the cholera vibrio, 10-per-cent. soap-solution was shown to kill this organism in one-half to one minute, and that even a 1-per-cent. solution interfered with its vitality. Thus the hands, clothing, and articles of the household can be disinfected for cholera by simple laying and washing in soap-solution.

For typhoid and coli at least a 10-per-cent. solution was necessary and a longer time, while for the organisms of suppuration soap was of no value. The author states that lysol soap-solution is not as valuable as lysol alone, and says that combinations of disinfectants with soaps are less powerful than when each is used separately. He advises first the use of the soap, then the antiseptic. J.

The Diphtheria Bacillus and Its Relations to Food-Stuffs

The importance of a knowledge of the vitality of the diphtheria bacillus led the author, Montefusco (*Annali d'igiene sperimentale*, Vol. 6, fasc. 3), to undertake a series of experiments with the various food-materials as nutrient media. He found that in sterile water the organism lived one and a half months, twenty days in ordinary water, and only six days in foul water. It lost its virulence, however, in a much shorter time. In raw milk three days was the limit of its growth. In butter two days. In wines, variable, according to the degree of acidity. Upon fresh bread the organisms lived twenty-four to thirty-six hours, while upon various fruits, apples, grapes, melons, and pears eighteen to twenty hours seemed to be the limit of the organism's vitality. J.

Spread of the Plague by Rats and Ants

According to an editorial in *Pediatrics*, Feb. 15, the plague is not a disease confined to childhood, yet it affects and is propagated chiefly by the little ones of the earth.

Hankin, who has for some time been studying the disease in Bombay, says that the affection is really one of rats, and human beings suffer only incidentally. The rats become affected and die, and their bodies are eaten by ants. These spread themselves about and infest food and water and clothing. If this is the true mode of infection we may readily understand why the plague is regarded as a filth disease, since rats and ants may be presumed to be found chiefly in habitations where little regard is paid to cleanliness. It would explain also why the only effective means of purification is by fire, since rats and ants but laugh at milder disinfectants. L.

THERAPEUTICS AND PHARMACOLOGY

William Fankhauser, M.D., W. J. Robinson, M.D.,
David M. Stabler, M.D.

Ferripyrin as a Hemostatic in Gynecology

Ferripyrin has been used by O. Schaeffer (*Münch. med. Woch.*, XLIII., p. 1184), who states that in his hands it had yielded excellent results in his gynecological practice.

He applied it on cotton by means of a sound, leaving the cotton in contact for two hours, or introduced it into the uterus on cotton or gauze, allowing the small, loose tampons to remain in for from twelve to twenty-four hours. The results he arrived at may be summed up as follows:

1. Ferropyrin is unquestionably styptic.
2. It is equally as effective a styptic as ferric chloride.
3. It may be allowed to remain from twelve to twenty-four hours, and even longer, without having any caustic effects, such as follow the use of ferric chloride.
4. In concentrated solution (1:5) it powerfully contracts the uterus, and also at the same time acts as an astringent on the entire surface of the mucous membrane.
5. It is best used in the form of small, uterine tampons, as above indicated.
6. In endometrial menorrhagias its application in powder form on the uterine tampons yields better and more lasting results than when used in solution.
7. With simple, intrauterine iodoform-gauze tamponade, no such lasting hemostatic action can be obtained, as when ferripyrin is simultaneously applied.
8. The application of ferripyrin has to be considered, above all, as a styptic, that is to say, as a palliative. Where other and more radical methods of treatment produce the desired object, neither this nor any other palliative should be substituted for them.

F.

Phthisical Coughs Treated with Peronin

Dr. Schroeder (*Therap. Monatsh.*, XI, p. 4) gives the results of the use of peronin in eighteen cases of phthisical coughs in patients of both sexes, in which its effects were compared with those of codeine. The remedy was given for seven days in constantly increasing doses of from 0.02 to 0.04 gme. He found that in the majority of cases the irritation causing the cough was immediately alleviated. The expectoration, as a rule was not affected, nor were any gastric disturbances usually observed. In all cases the use of the peronin induced a better, quieter sleep, without any stage of excitement. In a few cases the patient complained on the following morning of headache and general lassitude, after the larger doses of the drug had been given, symptoms much more frequently observed to follow the use of morphine.

The remedy may be given dissolved either in water or tea, or in pills, as in the following formulas:

1.	Peronin	0.5 gme.
	Distilled Water	100 gme.

Dose: Teaspoonful evenings in sweetened water.

2.	Peronin	0.1 gme.
	Distilled Water	145 gme.
	Alcohol	5 gme.

Dose: Tablespoonful three times daily.

3.	Peronin	0.3 gme.
	Extract and Powdered Licorice	q. s.

Divide into 30 pills.

Dose: Evenings two or three pills.

Mercury and Potassium Hyposulphite

This preparation, that has already been used hypodermically by Dr. D. Dreser, has been the subject of further investigation at the hands of J. H. Rille (*Wiener. med. Presse*, 1896, No. 3-6). His results showed that mercury and potassium hyposulphite properly deserves to be designated as an active antisyphilitic, whose extended practical application may, however, be circumscribed on account of its being so easily decomposed; this might affect the therapeutic results, as well as cause disagreeable local symptoms to supervene. Only freshly prepared solutions can therefore be used, and not in larger quantity than what will suffice for three days.

Rille employs the following formula for his solution:

Mercury and Potassium Hyposulphite	1.25 gme.
Distilled Water	10 gme.

Dose: 1 c.c. as an injection.

A solution made as above, and used when fresh, causes a minimum of reactionary effects, and the results are certain.

A. Waelsch (*Prag. med. Woch.*, 1896, No. 30-36), also supports these views. F.

Orexin as a Stomachic

Orexin has recently been used by E. Hüfler (*Nouv. Rém.*, XIII., p. 15) in thirty cases of anorexia due to various nervous affections. He prescribed it in cachets, each containing 0.3 gme., of which two were given daily, or more, if necessary. Of these eighteen were successfully treated.

the remainder were not. Without wishing to draw conclusions from these few cases, the author believes, nevertheless, that, on account of its influence on the appetite, orexin greatly excels all the other stomachics ordinarily employed. F.

Asparol

Asparol is the name given by Stroschein, of Berlin (*Pharm. Post*, XXX, p. 317), to a dark-brown, liquid extract containing the extractive matter of asparagus. It has a pleasant, faintly alcoholic odor, and a sweetish, saline taste.

Eka-iodoform

Eka-iodoform is a mixture of iodoform and paraform, that has very recently been put on the market. It is offered as a substitute for iodoform (*Therap. Monatsh.*, XI, p. 381). Dr. Thomalla has used the preparation in about 100 cases, and has never observed it to cause any irritation of the wounds or the tissue surrounding them. He also states that the preparation may be advantageously used in all cases in which the application of iodoform is desirable.

Acerdol

A new compound, named acerdol, has been patented in France by M. Foerster (*Bull. Com.*, XXV, p. 284). It is said to be made by subjecting an intimate mixture of potassa and finely powdered manganese to as complete an oxidation as possible. The end of the re-action is recognizable by the coloration of the mixture, which hardens on cooling. The mass is then crushed and dissolved in distilled water. The green liquid thus obtained is filtered, and evaporated to a syrupy consistency, when, upon cooling, the acerdol crystallizes out in the form of brilliant crystals which are then dried. Acerdol is soluble in water, with which it forms a green solution. It is reported to be a powerful oxidizer, of a very wide range of application; for instance, in bleaching, for disinfection, and for all purposes for which oxidizers are generally employed.

Sozoiodole in the Treatment of Diseases of the Ear

Dr. Stetter (*Arbeit. a. d. Ambulat. u. d. Privatklin. f. Ohren-, Nasen-, u. Halsleiden*, No. 2, p. 1) reports his experience with the use of the sozoiodole preparations in the treatment of diseases of the ear.

In suppurating processes in the ear supervening upon traumatic perforations of the tympanum, he states that sozoiodole-zinc gave surprisingly quick results. He mentions four such cases. One patient had received his injury by jumping head first into the water, and the others had had their tympanum perforated by being boxed on the ears. They all came up for treatment within a few days after the occurrence of the injury, but with existing suppuration. Complete cure was obtained within a few days. After having removed the pus by means of irrigations with a solution of lysol 1:300), the author dropped into the ear a small quantity of a 2-per-cent. solution of sozoiodole-zinc, or, according to the size of the perforation, insufflated a powder of sozoiodole-zinc, 1 part, and talcum 10 parts. After a few days, only a dry powder could be found in the auditory canal, and, on carefully removing the powder, it could be seen that also behind the latter pus was no longer to be found. The subsequent watch kept over the patients for one month proved that recovery had been complete.

Suppuration of the ear, often of long standing, due to acute infectious diseases, as scarlet fever or measles, yielded also much more quickly to the influence of sozoiodole-zinc than to that of boric acid or of sodium tetra-borate, the author states.

Disorders of the auditory organs often supervene after an attack of grippe. In cases in which blood-blisters appeared upon the tympanum, Dr. S. obtained good results by making an incision into the blister and treating the fresh wound with sozoiodole and talcum. Twenty-four hours after the incision, the tympanum usually showed a marked paler color, the serous, bloody secretion disappeared in a few days, and only a more or less intense color of the membrane indicated that the normal conditions had not been fully re-established. In no case were evil consequences to the hearing ever observed to follow this treatment.

Myringitis, and purulent discharges from the middle ear occurring after an attack of influenza or of a severe cold the author treated by first thoroughly washing the ear with a 1:300 solution of lysol, and after carefully cleansing the auditory passage and the middle ear, insufflating a powder of sozoiodole-zinc, one part, and talcum, ten parts. After a short time a great diminution of the pus could usually be seen, and soon the powder introduced into the middle ear remained perfectly dry.

In the case of chronic dry myringitis, Dr. S. has succeeded in restoring to its normal condition the thickened, dry, dull tympanum by means of the sozoiodole treatment. This effect he thinks is due to the resorbing properties of the sozoiodole preparations. The results were such that in from six to eight weeks such an improvement took place as regards the hearing of musical as well as of articulated sounds, that the majority of the patients were enabled to resume their accustomed work. In the form of the disease in which the inflammatory phenomena were of a steady, lingering nature, Dr. S. employed the following:

Sozoiodolic Acid	0.5 gme. (8 grn.)
Glycerin	10 gme. (2 f. dr.)
Distilled Water	10 gme. (2½ f. dr.)
Olive-oil	20 gme. (5½ f. dr.)

Ear-drops. To be shaken before using.

If, however, the tympanum showed intense injection of Shrapnell's membrane or of the malleal vessels, and thereby led one to suspect a new exacerbation of the inflammatory process, he used a 2-per-cent. solution of sozoiodole-zinc. Finally, in case suppuration was present, Dr. S. made insufflations of the following powder, after having cleansed the ear:

Sozoiodole-Zinc	1 gme. (15½ grn.)
Talcum	10 gme. (154 grn.)

From the result of his observations and experiences the author concludes that in the sozoiodole preparations we possess a perfect substitute for boric acid, possessing the advantage over the latter of being endowed with resorbing and astringent properties.

With sozoiodole-mercury the author has obtained good results in the treatment of granulation-proliferations in the ear. With the first patients subjected to this treatment, the author employed the remedy in its pure form; this, however, proved so painful that he was obliged to dilute it with talcum until of such a strength that it could be borne readily. Dr. S. now uses a 20-per-cent. powder, which he finds causes the morbid growths to shrink completely, so that in a short time they may be removed by irrigation. F.

Alcarnose

Alcarnose is an artificial food-product (*Pharm. Era*, XVIII, p. 78) that represents all the nutritive value of a mixed diet in a very assimilable form. It is claimed that alcarnose is directly and entirely absorbed by the stomach; considering that a healthy individual consumes 660 gme. of food daily, which contains 17.4 per cent. of albuminoids, 7.6 per cent. of fat, 72 per cent. of carbohydrates, and 3 per cent. of saline substances, alcarnose contains in each 100 parts; digested albuminoids, 23.8 per cent.; extractive and saline matter of flesh, 2.3 per cent.; digested carbohydrates (dextrin and maltose), 67.1 per cent.; and saline matter, 6. 8 per cent. (sodium chloride, carbonates, sulphides, phosphates of the alkalies and alkali earths with traces of iron). Alcarnose forms a brown, tough mass, inodorous, and of feeble, sweetish taste, resembling that of bread. It is soluble in water. In order to prevent any decomposition from exposure, alcarnose is put up in gelatine capsules of 12 gme. weight. From ten to fifteen capsules (120 to 180 alcarnose) are sufficient daily for a patient, these being dissolved in hot water, with the addition of cacao and sugar, or taken in bouillon.

Methylene-blue in Chronic Cystitis

L. Jays (*Med. Week*, IV, p. 624) recommends pills of the following composition:

Methylene-blue C. P.	1.6 gme.
Talcum	2.4 gme.
Lanolin	Sufficient for 20 pills.

Dose: From 2 to 4 pills daily.

Methylene-blue, being eliminated by the urine, which it stains a greenish blue, and possessing both analgesic and antiseptic properties, thus appears to fulfil the two main requirements in the treatment of cystitis, viz.: relief of the pain and antisepsis of the urinary tract. F.

Psilothinum

Psilothinum is a depilatory possessing the consistency of a cerate, and is applied with a hot, flat piece of metal and then allowed to cool, after which it is removed with the superfluous hair adhering. The remedy consists of a mixture of 40 per cent. of elemi-balsam, 10 per cent. of benzoin, 8 per cent. of rosin, 10 per cent. of yellow wax, and 30 per cent. of diachylon-plaster.

Ichthalbin, Ichthyol Albuminate

The remarkable results obtained by combining tannin with albumin to form tannalbin suggested to Dr. Arnold Sack (*Therap. Beilage d. Deut. med. Woch.*, XXIII, p. 35) the idea of producing a new preparation by combining ichthyol and albumin, with the view of replacing the ill-smelling, ill-tasting ichthyol by a remedy that would be practically odorless and tasteless and yet possess all the valuable curative properties of ichthyol. Such a compound has now been successfully made and named "Ichthalbin." It occurs as a fine, grayish-brown powder, not only odorless, but almost tasteless as well, and absolutely insoluble in acids, but completely soluble in alkaline fluids. Experiments showed that artificial intestinal fluid (0.2 per cent. pancreas-soda solution) completely dissolved ichthalbin at body-temperature, peptones and ichthyol alkali (sodium ichthyolate) being formed; and that 2 gme. of ichthalbin are entirely dissolved by about 100 c.c. of intestinal fluid in from four to six hours. It follows that ichthalbin passes the stomach unchanged, and is first attacked by the intestinal fluid and the ichthyol liberated, which is thus gradually absorbed into the blood in a nascent condition, and in this manner minimizes the eructation and nausea that attend the exhibition of ichthyol and that has hitherto rendered its internal use so repulsive to many patients.

In point of therapeutic value, 4 gme. of the compound are equivalent to 3 gme. of ichthyol. Ichthalbin is absolutely nonpoisonous, and hence does not require to be accurately weighed, but can be taken measured on the point of a table-knife or teaspoon.

Tests made as to its antiseptic power by Prof. Kramer proved that, whereas specimens of urine in two days developed strong ammoniacal fermentation and decomposed, as evidenced by the offensive odors, control-specimens to which ichthalbin had been added remained perfectly clear and odorless for over eight days; from which may be inferred that the remedy may find valuable application in infectious intestinal troubles and abnormal intestinal fermentations.

The remedy was employed by Dr. Sack in some thirty cases, with excellent results. It is given in doses of from 1 to 2 gme. (15 to 30 grn.) twice or three times daily, and best directly before meal-time. To obtain good results, the doses must not be too small; a normal dose for an adult may be considered about 1.25 gme. (20 grn.), best taken dry on the tongue, and washed down by a swallow of water. If retained in the mouth for any length of time it will, of course, be affected by the alkaline saliva, and the taste of the liberated ichthyol become apparent. Up to 1 gme. may be given to children, mixed with a little powdered or scraped chocolate. In this form it is gladly taken by them, whereas they can scarcely be made to take ichthyol. Hence, when the various complaints of children (such as anemia, rhachitis, scrofula, intestinal atony, intestinal catarrh, etc.) in which the remedy may be used are considered, together with the well-known power of ichthyol to improve nutrition and regulate the bowels, and its antiseptic power, the therapeutical value and advantages of ichthalbin are obvious.

The general effects observed to follow the use of ichthalbin are as follows: (1) Regulation of the bowels, the dejections becoming softer and greater in amount; (2) increase of appetite, patients suffering from malnutrition and anorexia soon exhibiting a desire for food, and frequently developing excessive hunger even; (3) and increased nutrition, patients gaining in weight, the increase amounting to 1 lb. per week on an average.

Wonderfully rapid alleviation and even complete recovery were effected in rosacea (particularly in that occurring in women suffering from menstrual irregularities and metritis) by the exhibition of ichthalbin in doses of 4 gme. (1 dr.) per day.

Ichthalbin is reported to be very useful externally, where a mildly antiseptic and keratoplastic effect is desired. Anal fissures were healed in a remarkably short time by dusting on ichthalbin, and the itching of hemorrhoids was also beneficially influenced. Taken all in all, ichthalbin bids fair to assume a commanding place in therapeutics, since besides being absolutely harmless, it lacks the disagreeable properties of pure ichthyol, while possessing all its valuable powers; does not offend the sense of taste or of smell, and is absorbed only as the nascent ichthyol is liberated in the intestines. F.

Formaldehyd in Ophthalmia

According to Stanford-Morton (*Rev. de Thérap. méd.-chirug.*, LXIX, p. 57), formaldehyd is specially valuable in the treatment of infectious corneal ulcers, and in purulent conjunctival affections in consequence of its remarkable germicidal properties. Its toxicity is a minimum one, and it possesses the great advantage of being very diffusible, and of rapidly penetrating to the deeper tissues. The author has experimented with solutions of 1:2000 and 1:3000 in purulent infiltrations with corneal ulceration, and in ulcers with hypopyon, that are rapidly alleviated.

He concludes also that formaldehyd is neither toxic nor irritating. F.

Oxytuberculin and Oxysepsin

Oxytuberculin is a tuberculin that has been changed by oxidation, and that Prof. J. O. Hirschfelder (*Pharm. Ztg.*, XLII, p. 326) claims possesses the power of curing local or general tuberculosis. For its production he employs a tuberculin prepared by himself by cultivation from a most highly virulent bacillus; and this bacillus is so virulent after cultivation in the proper medium, that nine days after inoculating guinea-pigs with it general tuberculosis sets in, and immense numbers of bacilli are found. The advantages that oxytuberculin is said to possess are: That it may be given in comparatively large doses (20 c.c. daily), and that it does not cause the slightest disorder.

Oxysepsin is a substance similar to oxytuberculin, and is also made by Prof Hirschfelder. He employs it simultaneously with oxytuberculin in cases where, with tuberculosis there is an infection due to various kinds of cocci. The substance is an oxytoxin, and is prepared by cultivation from a culture obtained from a case where high fever persisted. Oxysepsin is employed hypodermatically, and, it is stated, large quantities of it may be injected without fear of any deleterious results. The equivalent of 2-5 gme. of tuberculin was frequently injected, without any rise in temperature or the slightest disturbance following. Quantities up to 60 c.c. of oxysepsin were repeatedly injected hypodermatically without any untoward effect being observed. F.

Anozol

"Anozol" (meaning "free from odor"), or "deodorous iodoform," is the name proposed by Dr. Policarpo Diaz, of Salamanca City, Mexico, for a mixture of iodoform and thymol. He recommends that 1 or 2 parts of thymol be powdered and mixed with crystallized iodoform in the ratio of 1 or 2 to 10. The odor of the mixture is said to be only that of the thymol, the iodoform being completely masked. Care must be taken not to confound this preparation with "anusol," which it closely resembles in name, but which is the bismuth salt of iodo-resorcin-sulphuric acid, and is used as a pile-remedy. F.

Ossalin, Ossin, and Sodium Ossalinate

Under the above names, these new preparations have been introduced by J. E. Stroschein, of Berlin (*Pharm. Ztg.*, XLII, p. 354).

Ossalin, or adeps ossium, is described as being an ointment-base obtained from ox-marrow. Its most valuable property is said to be its ability to take up water to the extent of 200 per cent., thus forming ointments that are easily absorbed into the skin. Ossalin is said to be a very mild fat, to be perfectly neutral, and to cause no irritation of any kind on the skin. It is grayish-white, and has an odor resembling that of tallow.

Ossin, or extractum ossium liquidum, contains, according to the manufacturer, water 8.82 per cent., salts 9.4 per cent., ethereal extract 0.06 per cent., nitrogen 12.1 per cent., and substances easily soluble in 80 per cent., alcohol 61.25 per cent. The salts mentioned contain phosphoric acid 32.79 per cent., sulphuric acid 1.85 per cent., chlorine 9.54 per cent., ferric oxide 0.34 per cent., soda 12.2 per cent., potassa 38.47 per cent., lime and magnesia 4.77 per cent., and sand 0.03 per cent. The preparation is in the form of a fluid extract, and is dark brown and somewhat bitter, and is employed in diabetes.

Sodium ossalinate is the sodium compound of the acid of ox-marrow, and is recommended particularly as a substitute for cod-liver oil. F.

Kreosolid, an Anti-tubercular

Kreosolid is a new creosote preparation prepared by Dr. Denzel. It is described (*Pharm. Ztg.*, XLII, p. 326) as the magnesium compound of the phenols contained in creosote. It occurs as a white powder having a faint odor and taste. 1 gme. of kreosolid represents 2 gme. of creosote in effect. The new compound is given in doses of 0.5 gme. (8 grn.), four times daily. It is decomposed by the acid of the gastric juice into its active constituents, creosote and guaiacol. It is said to be non-irritating and to be well borne. F.

Guaiaquin, a Substitute for Guaiacol

Guaiaquin, or quinine guaiacol-bisulphonate, is a compound prepared by the interaction of equimolecular weights of guaiacol-sulphonic acid (made by treating crystalline guaiacol with concentrated sulphuric acid) and quinine alkaloid. It occurs as a yellowish, acid, bitter solid that is readily soluble in water, alcohol or dilute acids. It is said to be free from the odor and caustic effects of guaiacol, for which it is offered as a substitute. F.

Anilipyrin

Under the name of anilipyrin Drs. Gilbert and Yvon describe (*Med. Week*, V, p. 320) a product, obtained by heating a mixture of one part of acetanilid with two parts of antipyrin. This substance, which melts at a temperature of 105° C., is more soluble in the usual liquids than those from which it is derived, 10 gme. of distilled water, for instance, at a temperature of 15° C. dissolving 43 gme. of anilipyrin, but only 16 gme. of antipyrin, and 0.05 gme. of acetanilid.

Anilipyrin is slightly toxic; it kills a guinea-pig with tetanoid convulsions and hyperpyrexia in doses of 1.8 gme. per kilo of the animal's weight. Its action on the normal temperature of animals manifests itself after the administration of one-fifth of the toxic dose. It is more marked than that of antipyrin and less than that of acetanilid.

In therapeusis, anilipyrin may be employed as an antipyretic and analgesic. It gives especially good results in influenza and acute articular rheumatism, headache, and neuralgia. It should be prescribed in doses of 1 or 2 gme. (15 to 30 grn.) daily 0.5 gme. at a time.

REVIEWS

Twenty-First Year-Book of the New York State Reformatory for the Fiscal Year Ending September 30, 1896. With Illustrations and Anthropometric Tables. Elmira, N. Y., 1897.

The book before us is far ahead of the average reports of institutions of this character. It is composed of the Board of Managers' Report; General Superintendent's Report (Proper), (*a*) Income and Expenditure, (*b*) Statistics of Inmates, (*c*) Biographical Compendium; Professor Chapman's Report. School of Letters; School Director's Report, Report of Director of Trade-school, Manual Training Experiment Director's Report, and Physician's and Physical Training Supervisor's Report.

Of all these reports the last, to us, is the most interesting.

The book itself is profusely illustrated, which serves to make the subject-matter so much more interesting. It likewise contains a great number of tables, making the reports of the various officers more explicit.

In order to emphasize his remarks, the writer of the physician's report, Hamilton D. Wey, M. D., quotes well-known authorities on the various topics which he considers.

The book certainly will prove interesting and instructive reading to both the layman and physician, the latter receiving hints of incalculable value upon topics which he is called upon to give advice, very frequently, in a professional capacity.

The editing, typography, illustration, and binding, are the product solely of prisoners' labor.

True to Themselves; A Psychological Study. By Alexander J. C. Skene, M.D., LL.D., Dean and Professor of Gynecology in Long Island College Hospital. F. Tennyson Neely, Publisher, New York and London. Price, in cloth binding, $1.25.

The publication of a novel by Dr. Skene will be something of a surprise to the medical men of this country and Europe who have known him so long as an unusually successful gynecologist, an able teacher of gynecology, and as the author of such well-known works as "Medical Gynecology," "Diseases of Women," etc. The story he has given us is one of deep interest, not only because of the vein of philosophy that runs through it, but because of the well-woven plot and character portraitures which it contains. The scenes are laid in the most romantic parts of Scotland and in what is now Greater New York. The book is sprinkled with just enough of the Scotch dialect to make it attractive without in the least making it obscure to American readers. It is intended as an attack on marriages that are made without love as their foundation. Some idea of the vein in which it is written can be drawn from the following quotations: "It is better to rescue people from dangers of all kinds than to dose them with medicine." "I have never met a good, noble, useful, successful man who did not trace his inspiration and guidance to women." "Those who insisted upon doing their own poor thinking about their afflictions and their treatment, and could not believe in any medical man who refused to listen to their silly opinions, found nothing interesting in Dr. Douglass." "The idea of laymen choosing their own physicians and surgeons is perfectly absurd. As well permit a child to choose its own school, or tell a sick man to select from the bottles and boxes in a drug store the remedy which is required to cure him." "Put hope in one pan and evidence in the other; count sure on your verdict being for the hope side, no matter what the indicator says." "I have seen the good and the bad, the believer and the unbeliever die, and I know that there is no punishment for sins in *death*." "Love truly is the greatest power on earth." "The bad in health die young, and broken-down families die out and leave the race the better for their going." "I should have lost this part of the history had it not been for the newspaper reporters (bless their industry which atones for all their sinful impudence)." Dr. Skene's friends who are surprised by the appearance of this novel from his pen will be doubly surprised when they read the original poems and songs that it contains. We commend the book to such of our readers as take any interest in romance, and particularly to those who know the author from his medical works or personally. It is well printed, bound substantially, and contains as a frontispiece a first-class picture of the gifted author.

The Pocket Therapist: A Concise Manual of Modern Treatment, for Students and Junior Practitioners. Arranged Alphabetically for Ready Reference. By Thos. Stretch Dowse, M. D., Fellow of the Royal College of Physicians of Edinburgh, late Physician Superintendent Central London Sick Asylum, etc., etc. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd., Hirshfeld Bros., High Holborn, 1897.

This small and apparently trivial work has been designed in the belief that it may be useful to the student and young practitioner in the exercise of his calling.

The suggestions offered as to the treatment of disease are arranged in alphabetical order, thereby making ready reference possible. The various headings are treated at once in a direct, concise and simple manner. Besides containing many valuable hints with regard to the modern treatment of disease, the author gives the methods used in the examination of the blood, urine, sputum, vomit, etc. The therapeutic serums (antitoxins) are also considered, but in a brief manner.

The book is well bound and well printed, and may be carried in one's pocket.

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The State Board of Medical Examination and Registration of Indiana will not recognize the diplomas issued by the following colleges: American Eclectic College, of Cincinnati, O.; American University of Pennsylvania, Philadelphia, Pa.; College of Physicians and Surgeons, Buffalo, N. Y.; Curtis Physio-Medical College, of Cincinnati, O.; Curtis Physio-Medical College, of Marion, Ind.; Druidic University, of Lewiston, Me.; Eclectic Medical College, of St. Louis, Mo.; Eclectic Medical College, of Pennsylvania, Philadelphia, Pa. (After 1870); Hygeia Therapeutic College, of New York City, N. Y.; Hygeia Therapeutic College, of Florence Heights, N. J.; Illinois Health University, Chicago, Ill.; Indiana College of Medicine and Midwifery, Indianapolis, Ind.; Joplin Medical College, of Joplin, Mo.; Medical University of Ohio, Cincinnati, O.; Philadelphia University of Medicine and Surgery, Philadelphia, Pa. (After 1870); Vermont Medical College, of Rutland, Vt.; Dunham Medical College, of Chicago, Ill.; Illinois Medical College, of Chicago, Ill.; Vigomia College of Medicine, Worcester, Mass.; Wisconsin Eclectic Medical College, of Milwaukee, Wis.; University of Illinois, Chicago, Ill.; National Medical College, Chicago, Ill.

CORRESPONDENCE

Regulars and Irregulars

Grand Rapids, Mich., Sept. 1, 1897.

To the Editor of the A. M.-S. Bulletin:

Thanking you first, for the courteous hearing, and seeming frank reply accorded me in your issue of August 25, I will cheerfully and briefly answer a question most ingenuously and squarelyput, and in the interest of truth, offer a suggestion or two upon points that seem to me quite clear, but which are obscured somewhat by editorial ink. You correctly quote me as saying "It is supercilious insolence for any *fraction* of the profession to call itself '*Regular*' as a distinguishing name" and you add "If it is, then please say why?"

In the first place, the definitions generally accorded to the word "*regular*" all include the idea of especially honorable establishment, as "agreeable to established law, rule or principle"—"governed by rules"—"uniform in a course of practice"—"orderly"—"methodical"—"unvarying"—"thorough"—"out and out"—"perfect"—"complete."

Surely, these terms are as accurately descriptive of the systems of practice that you term "sectarian" as that which you choose to favor with this pet appellation, and it would be easy to quote to almost any extent, the authority of those held in most honor in your fraction of the profession and by them prove, that the facts of practice will not warrant the application of a single one of these complimentary definitions of the term you strive to monopolize as a fitting title. I quote but one. That shining light among British physicians and authors, Dr. Mason Good, writes; "The science of medicine is a barbarous jargon and the effects of our medicines on the human system are in the highest degree uncertain, except indeed, that they have destroyed more lives than war, famine, and pestilence combined." And this is a "regular" of the "regulars," on "regular" medicine! Besides not alone by inference, but by direct dubbing, all outside this pet fraction of the profession are "irregular" and of course quite unworthy of the terms descriptive of "regular!" In the next place, as part of my answer to your question, I call attention to two points in your reply to me. You concede with approval the fairness of the definition given "regular physician" by the surgeon-general of the United States army, which is practically and in brief, that the "Regular physician" is the educated physician and then you refer with approval to the action of the "Association of Medical Colleges" at its last meeting in Philadelphia, by which it recognizes the educational standing of "Homeopathic" and "Eclectic" medical colleges, by giving their students credit for time spent therein. Now, considered by the light of generally accepted definitions, is it not "Supercilious insolence for any fraction of the medical profession to call itself 'regular' as a distinguishing name?" And by the light of the surgeon-general's definition and the action of the Association of Medical Colleges is it not ridiculous?

You say "let all sectarian physicians abjure their sectarian names on their signs, and before their patients do exactly as we do in the matter and the quarrel will soon end." My dear sir, in this city of a hundred thousand souls, liberally supplied with physicians of all schools, I believe no single sign is disfigured by any school designation, and if they vary from your methods before their patients, it is not by an exhibition of more zeal in endeavoring to impress patients with a sense of awe at superior wisdom or of unusual opportunities for obtaining it. In the matter of Prof. Wilcox's relation to a publication of the virtues of Hydrastis Canadensis, I merely referred to Prof. King's priority of about fifty years, to show the unfortunate consequences of professional prejudice that made the published discoveries of the Eclectic School a sealed book, even to so broad and cultured a man as Prof. Wilcox. I spoke of Prof. Wilcox only to commend, and of this instance of his supposed discovery, only to protest against the belittling tendency of school-lines. If effective as a bar to inquiry by such a man as Prof. Wilcox, the effect must be truly deplorable upon the mass of medical sectaries. I wish to quote with approval a truly golden sentence in your answer. "If others pursue the inductive method of first gathering therapeutic facts and then finding the underlying principles, they are as regular as we are." Now I desire to assure you that many intelligent observers among medical men, that you thoughtlessly dub "irregular," have devoted lives of toil to "gathering therapeutic facts"—have spent time and substance in chemical analysis for obtaining the active principles of indigenous medicinal plants, have thereby evolved a valuable materia medica from our home resources, and by reason of medical prejudice, such as you seem to think impossible for such open-minded gentlemen as constitute your fraction of the profession to be swayed by—are quite ignored.

In this line of work, Prof. John King and Wm. S. Merrill, of Cincinnati, were pioneers, and John U. Lloyd is carrying on the good work. By their analytical methods they have produced preparations that, compared with the synthetic products of German laboratories are vastly superior, because they are safe as they are effective, and are not made offensive to truly liberal doctors by trademarks, as misleading as veritable patent-medicine effrontery.

I beg you Mr. Editor, to publish this as a matter of *news* (though any time in the past forty years, true), for the benefit of the great self-conscious "regular" fraction of the profession gone wild over Koch and tuberculin, and who fancy their fanaticism is scientific zeal because it is of foreign kindling.

I beg to rewrite your sentence: "If others pursue the inductive method of first gathering therapeutic facts and then finding the underlying principle, they are as regular as we are"—and all the "irregulars" say amen, and pray that the very "proper" fraction of the profession called "regular" may cease to aspire to be the whole and so escape becoming an "improper fraction" and *vulgar* beside. Very truly,

P. B. Wright, M. D.

◆

The American Pediatric Society is making a collective investigation of infantile scurvy as occurring in North America, and earnestly requests the co-operation of physicians, through their sending of reports of cases, whether these have already been published or not. No case will be used in such a way as to interfere with its subsequent publication by the observer. Blanks containing questions to be filled out will be furnished on application to any one of the committee. A final printed report of the investigation will be sent to those furnishing cases to J. P. Crozer Griffith, M. D., chairman, 123 E. 18th St., Philadelphia; William D. Booker, M. D., 853 Park Ave., Baltimore; Charles G. Jennings, M. D., 457 Jefferson Ave., Detroit; Augustus Caille, M. D., 753 Madison Ave., New York City; J. Lovett Morse, M. D., 317 Marlboro St., Boston.

American Medico-Surgical Bulletin

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Editor: ROBERT G. ECCLES, M.D.

COLLABORATORS:

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EDITOR'S NOTES

The Mississippi Valley Medical Association meets at Louisville, Ky., on October 5, 6, 7, 8, 1897. The different passenger associations have granted a round-trip rate of one and one-third fare on the certificate plan. The sessions will be held at the Liederkranz Hall, and the headquarters will be at the Louisville Hotel. A list of sixty-eight papers that are to be read has been announced for several weeks, and no doubt many additional ones have been added since. A good many of the names of those announced for papers are men of wide reputation.

We note with great pleasure that the McKean County Medical Society, of McKean County, Pa., is pursuing the plan we lately suggested in our editorial columns of trying to educate the public to a proper understanding of what our code of ethics means, why irregular practitioners are brought to account, and other matters that are of interest to them concerning our profession. A communication over a column long appeared in the Bradford *Era*, on Sept. 3, that was exactly to the point, timely, and well written. There were no names attached to the communication, the headline simply saying that it was published by the McKean County Medical Association. We commend them for their wisdom, hope they will publish more, and that other medical societies will imitate them.

Americans get the name of doing everything hurriedly, and the British have been looked upon as somewhat slow, but in one thing they seem to be much faster than we are. The American Medical Association selects the places where it shall meet each successive year at the time of its meeting in the preceding year. No one knew where it would meet in 1898 until the Philadelphia meeting of 1897 had voted upon the subject and decided upon Denver. Our British cousins, before they had met in Montreal, had decided upon Edinburgh, Scotland, as their place of meeting of 1898, and it is likely that they will soon decide upon Glasgow, Scotland, as the place of meeting for 1899. The British plan gives the doctors plenty of time to make up their minds about attending, and the local committees do not have to work as hard to get ready for the occasion. It also gives those doctors who feel as if they could not afford to attend every meeting a chance to select such as they might on grounds of economy or novelty prefer to be present. We fear their plan would not work well here, as in the rush of other matters meetings appointed so far ahead would by many be likely to be forgotten, or the interest in them would wane. Like the dark horses in our presidential nominations our people look for, expect, and prefer surprises.

Sir John Evans, in his inaugural address before the British Association for the Advancement of Science, at Toronto, had the following kind and considerate words to say about the large number of visitors from the United States: "Our gathering this year presents a feature of entire novelty and extreme interest, inasmuch as the sister association of the United States of America and some other learned societies have made special arrangements to allow of their members coming here to join us. I need hardly say how welcome their presence is, nor how gladly we look forward to their taking part in our discussions and aiding us by interchange of thought. To such a meeting the term 'international' seems almost misapplied. It may rather be described as a family gathering, in which our relatives, more or less distant in blood, but still intimately connected with us by language, literature, and habits of thought, have spontaneously arranged to take part." Let our readers compare this with the way the British Medical Association treated our American medical men, and note the fact that the discourtesy of this body was due to the dispositions of the men in charge of the arrangements and not to British disposition. We hope that the gentlemen that managed the Montreal convention will take a lesson in international civility from their countryman, Sir John Evans, and the association which he so graciously presided over.

Dr. Wright, of Grand Rapids, Mich., has written to us again on the subject of regularity and irregularity in medicine. His letter will be found in our correspondence column. We ask the doctor, candidly, if it would not be better for him to avoid harsh expressions and implied personalities? When he refers to our "*seeming* frank reply," does he really wish us to understand that he does not believe that we were in reality frank? Why does he say, "obscured somewhat by editorial ink"? Does it add any essential fact to the idea he wishes us to adopt concerning the true position of the eclectics when he begs us to publish as a "matter of news" what he thinks should not have been news to us within the past forty years? Did he intend this as a deliberate insult? In all charity we shall hold that he did not. When he speaks of our having gone wild over Koch and tuberculin, and when he says we are fanatics on the matter, we should like him to tell us wherein this helps his position, even if true? So far from truth is he in this that the fact of his letter appearing in this journal in spite of its harshness should show him his mistake. Fanatics are always tender when touched on such points, and never dare to publish an attack. Does Dr. Wright think that he has made a telling argument when he finishes with calling us an "improper fraction" and "vulgar besides"? We may be obtuse, but we think that it will be difficult for Dr. Wright on second reading to discover how this sort of argument can help him or us to the truth. The issue he raised in his first communication is one we are interested in, and one that we are anxious to have clearly understood, but it must be debated soberly and dispassionately to be of any benefit. The issue simply is, shall physicians be physicians or sectarians? We refuse to recognize any sectarian name, and we have no sectarian creed. If eclectics and homeopaths are not sectarians, and have no limits to their freedom as practitioners, then we hold there is no earthly reason for their separate existence. We do not monopolize the title regular. They can use it if they choose. We have no patent upon it nor has it been copyrighted by us. We do object to their insisting upon compelling us to assume a sectarian name that if we took would make us a living lie. The insolence is all on the side of our assailants in that they refuse us the freedom they claim for themselves.

PUBLISHERS' DEPARTMENT

ASEPTOLIN

To the Medical Profession:

It has recently been brought to my attention that several manufacturers have placed on the market certain preparations as substitutes for "Aseptolin," which have manifestly not been made strictly in accordance with my formula, as analysis fully proves. These defective solutions have not only failed in accomplishing the relief or cure of the patient, but in many instances have caused abscesses and other harmful results. I must not be held accountable for these evils which directly result from the defective compounding of the preparation. The only preparation compounded strictly in accordance with my formula is "Aseptolin-Edson," prepared by the Asepta Chemical Co., of New York, under my personal supervision.

(Signed) CYRUS EDSON.

ANTIKAMNIA

"The value of Antikamnia consists in its rapid effect in alleviating the suffering of the patient while more radical treatment is working a cure. While endeavoring to rid our patient of his neuralgia, rheumatism, typhoid, intermittent, or malarial fever, we secure him relief from pain and intermission of fever. We have, in short, in this drug, not a remedy for any disease, but a most useful antidote to the two great symptoms—Pain and Pyrexia." *Medical Reprints*, London, Eng.

ADVERTISING SPECIALIST

The advertisement of M. P. Gould, appears on page ix of this issue. He has had extensive experience in writing advertisements for the drug and chemical trades, and is now making a special study of medical advertising. He would be pleased to correspond with advertisers in medical publications, who have not received returns up to their expectations, or with those who desire to make new arrangements in advertising their goods. Mr. Gould has also met with good success in the preparations of booklets, etc., for druggists.

NEUROSINE

Neurosine is a most powerful neurotic, although it contains no morphine, chloral or opium, for the treatment of all forms of nervous disturbances. It is recommended as an efficient anodyne and hypnotic, for cases of hystera, epilepsy, neurasthenia, mania, chorea, uterine congestion, neuralgia, migraine, delirium tremens, asthma, spermatorrhœa, and in the delirium and restlessness of fevers.

NEWS

In India, last year, 1,133 people died from the effects of snake-bites.

In July, 1898, the fourth congress for the study of tuberculosis will meet in Paris.

Dr. J. N. Beausolleil, of Montreal, has been elected president of the Canada Medical Association.

Dr. Samuel Brothers has been appointed attending neurologist to the Zion Hospital Dispensary, New York City.

Don Long, the Chinese doctor of Crown Point, Ind., has undertaken to test the constitutionality of the Indiana medical law.

Dr. Sanarelli is but thirty-five years of age, and is said to be one of the most accomplished bacteriologists known to the profession.

The State Medical Board of Indiana is now getting ready to put its law in force against all who have not been licensed to the present time.

The osteopaths are divided among themselves, and are fighting over a new school about to be established in Kansas City, in opposition to the one now at Kirksville.

According to the Cincinnati "Enquirer" the City Hospital authorities and the health officer have had a clash over the turning out by the former of a man with scarlet fever in spite of the latter's protest.

Physicians are cordially invited to attend the Ninth Annual Meeting of the Tri-State Medical Society of Alabama, Georgia, and Tennessee which will be held in the Senate Chamber of the State Capitol, Nashville, Tenn., October 13 and 14.

The District of Columbia contains one physician to every 264.2 inhabitants. According to this the National Capital must be the worst place in America for medical men, the average for the whole country being one for every 613 inhabitants.

The American Association of Colored Physicians and Surgeons, will hold their annual convention, in Nashville, Tenn., on October 15 and 16. One thousand members are expected to be present. Dr. F. C. Boyd, of Nashville, is president.

Sir T. Grainger Stewart has been named president-elect of the British Medical Association. Doctor Stewart is Physician-in-ordinary to the Queen, in Scotland, and Professor of the Practice of physic and clinical medicine, in the University of Edinburgh.

The Virginia Medical Society, in its late annual convention at Hot Springs, adopted a resolution asserting that "the policy of receiving worthy women, possessing the necessary medical qualifications, into full active fellowship is established as its permanent policy for the future."

The Erie County Medical Society holds that the practice of midwifery in the State of Pennsylvania is illegal. It is therefore trying to drive midwives and fake doctors out of the State. It is also seeking to compel traveling doctors to pay the tax of ten dollars a day which the law calls for.

The Kansas City College of Medicine and Surgery of Kansas City, Kan., has lately received a charter and organized with a capital stock of $10,000. The cities at the Kaw's mouth have probably more medical colleges to the population than can be found in any other part of the earth.

The public press has for some time been reporting cases of yellow fever in Mississippi, Louisiana, and Alabama. The outbreak began in July last, and was pronounced dengue or bucket-fever. In Ocean Springs, Miss., about one-quarter of the population were down with the disease at the same time.

The *British Medical Journal* thinks that Dr. Sanarelli will probably receive the prize of $110,000 which a bill passed by the Legislature of Brazil offers for the discovery of the microbe of yellow fever. The same bill provides another $110,000 for the discovery of a curative serum for the same disease.

There has been some excitement lately in Illinois over a report that Dr. John B. Hamilton was about to put the pauper patients of the Elgin Asylum in uniforms. The doctor says that by purchasing goods for clothing that can all be examined at once and certified to, he only seeks to save the State from being robbed. The system, he says, is not new but has been in vogue for some time.

The Belgium Consul at Louisville, Ky., censures some medical men of Dayton, O., because of their loose methods in sending in birth-certificates to the board of health. The Belgium Department of State in seeking to establish the birth, and legitimacy of one Bertha Delfosse, find themselves thwarted because the doctor never registered the birth of the child. A large fortune is at stake, which it may lose.

The City Hospital of Cincinnati, O., according to the "Times-Star," has lately put in force a law which permits it to refuse admission to all patients not residents of the city unless "humanity cases." The directory is their guide in determining whether or not the patient is a resident. A number of worthy cases have been refused admission in spite of their claims that they were citizens of Cincinnati.

The same Society at the same meeting put itself on record as follows:

"1. No person authorized to practice medicine or surgery shall be compelled to disclose any information which he may have acquired from his patient while attending him in his professional character, and which information was necessary to enable him to prescribe as a physician or do any act for him as a surgeon, and moreover, that no physician or surgeon be required to testify in court as an expert witness without reasonable compensation.

"2. That the State license tax upon physicians be remitted or abated.

"3. That the fees in lunacy commissions be increased sufficiently to meet the requirements of such cases.

"4. That members unite in charging a uniform fee of $5 for life-insurance examinations, except in life-insurance companies with beneficial benefits (commonly known as fraternal insurance), and that the fee in these cases should not be less than $3.

"5. That the Society join in any action possible to bring about a national confederation of State Boards, whereby a higher and more liberal medical education will be demanded of prospective medical students and whereby interchange of license certificates will be practicable."

American Medico-Surgical Bulletin

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EDITORIAL.

A CRYING NEED

THE growth of medical science is at present going along so rapidly that the general practitioner is wholly unable to keep pace with it in his practice. The accumulating mass of facts rises like a tidal wave and threatens to engulf him. The recent advance made by bacteriology has become a source of terror rather than encouragement to many. Each successive step seems to render diagnosis more and more difficult. Diseases that every family doctor thought he could tell with but little difficulty are shown to require unusual skill and special training. Treatment that a generation ago was supposed to be almost or quite specific is now found to be useless, and the belief in its efficacy is considered as something in the nature of a superstition. Culture-chambers, microscopes, staining reagents, and test-tubes are threatening to supplant in a great measure the older methods of telling what is the matter with the sick. The indications of the tongue, the pulse, the temperature, and the course of the disease are being relegated to positions of secondary importance. The new methods of diagnosis are encroaching steadily upon the old, but unfortunately boards of health and not attending physicians do the work. The cost of the fitting up of a bacteriological laboratory, the time, the skill, and the care required are so great that few practitioners are willing to undertake a task so arduous. The great majority are quite willing to let others do it for them irrespective of remote consequences. It does not require a prophet to foresee where this dependence must finally lead if not soon checked. There are but a few diseases that can yet be diagnosed bacteriologically, but the indications are that many or all are likely before long to enter the list. When this anticipated result has become fact, are the boards of health going to do all the diagnosing? The current of events is running that way, and unless stemmed now who can say where it is likely to end? Every new advance made by science in this field widens and deepens the gulf that separates the practice of the present from that of the future, and makes it more difficult for the present practitioners to keep pace with the requirements of duty unless willing to call in the assistance of outside aid. The majority of doctors cannot tell pseudo-diphtheria from true diphtheria except in typical cases. But few of them are able to use Widal's test in typhoid fever. Actinomycosis and tuberculosis are all the same to a large number of them. In doubtful cases of malarial fever the number is small that can identify the Plasmodium malariæ, even when present in abundance. When the majority of practitioners were college students little was known of these things, and though many or perhaps the great majority of them have tried to keep pace with the new discoveries, it has been more through books and medical journals than through actual experiments of their own. The younger men have all had some drilling in practical bacteriology,, but on leaving college they have found themselves in tne condition of soldiers before the enemy, without guns and gunpowder, and compelled to resort tò stones, slings, bows and arrows. Bad as this is to-day it is pretty sure to become worse unless something can be done to correct the matter. The gulf between the old and the new can never be filled, but an effort should be made to bridge it. Skilled bacteriologists should seek to simplify the facts and principles of pathological bacteriology, stripping them of every non-essential and putting them in popular form so that they will not repel by their seeming abstruseness. Some one is wanted who will do for this subject what Tyndall and Huxley have done for their favorite studies. To assume that medical men do not need to have any branch of biology simplified for their use is to make a serious mistake. Excessive technicality and its accompanying stiffness have yet to answer for a mountain of professional sins. Bacteriology as an infant science should avoid it, whenever possible. A popularly written book on the subject would be welcomed by the profession if it contained directions for home experiments of a practical kind and taught the reader how to prepare everything he needs out of the materials accessible in a private house or that could be cheaply purchased in a country store. We are conscious of the fact that some skilled bacteriologists will smile at this suggestion, and think, if they do not audibly say, that it is absurd. Why is it absurd? Because nò one has attempted to develop it. Of course no one could be expected to do as good work with crude apparatus as with costly and skillfully made goods. We know, however, that some of the most wonderful pioneer work of the world in every branch of science has been done with crude, home-made apparatus. We also know that Prof. Meyer succeeded in devising home-made, simple apparatus for the study of physics that caused many a student to bless his ingenuity. Students taught with costly apparatus are impotent when thrown on their own resources, because no one has tried to develop sterilizers, culture-chambers, thermostats, etc., from crude material. Who will be the genius among thoroughly trained bacteriologists willing to attack this problem? There are now many things that can be done without a microscope which would have been impossible a few years ago, and if the line of work we here call for is seriously undertaken by the proper persons, we are confident that in a short time methods of identifying pathogenic bacteria without its use will become quite common. The art of diagnosing by aid of bacteria need not require a complete knowledge of bacteriology, but only as much of it as can be practically utilized. The essentials must be culled from the non-essentials, not as a mere epitome, but as a perfect whole, and taught in a way that will attract, not repel general practitioners.

THERAPEUTIC SCEPTICISM

EVERY few years someone impatient of the slow evolution of therapeutics, forgetting the fact that we have made some substantial scientific gain therein, becomes sceptical of all treatment and breaks out into wholesale condemnation of every form of remedy. Our sectarian adversaries usually take pleasure in quoting such words to us when they are not from the fold of some medical schism. Why the sectarians do so it is hard to understand, unless they actually think that we are as creed-bound as themselves. We can see why therapeutic nihilism could not be tolerated in the ranks of homeopathy or of eclecticism, but we fail to see what particular harm it can do among men imbued with the spirit of inductive science. The presence of scepticism where there is freedom is always salutary. It shows that we are not like young robins swallowing everything that some acknowledged authority puts into our mouths. If we were allopaths, as our adversaries claim we are, nothing but orthodox allopathy would be tolerated in our ranks. When, therefore, they quote the words of such sceptics to us they merely prove that they are misrepresenting us when they call us allopaths. In any body of scientific men there will always be found less or more scepticism on every subject with which they deal. The amount possessed by any given individual will depend upon his experience and knowledge of the facts involved in the subject. There are therefore likely to be many degrees of such scepticism on all subjects into which enters the slightest element of doubt. As there is usually plenty of room for doubt in a great deal of our modern treatment of disease, there necessarily is plenty of excuse for scepticism. When, however, anyone in these closing years of the nineteenth century proclaims himself a medical nihilist we naturally think that he has a fit of dyspepsia which interferes with clear thinking and has rendered him pessimistic. To pronounce drugs useless and to tell us to "cast physic to the dogs" is to talk at random and without thought. A few years ago such men were quite common, but their numbers are rapidly diminishing and we believe they are destined soon to disappear. New discoveries that compel them to change their attitude are constantly being made. The evidence that some pathological conditions are changed into physiological ones by drugs is overwhelmingly convincing. If this is now true of some, or even of only one, no reasonable person can doubt the possibility of the time coming when it will be found to be true of the majority or of all. The mistake of the therapeutic nihilist is in blaming therapeutics for defects in his own knowledge. If he mistakes typhoid fever for malarial fever and undertakes to treat the former with the remedies of the latter, how can he expect to be successful? If he has a case of pneumonia to-day due to one kind of microbe and another case to-morrow due to a totally different kind of microbe with a different power of vital resistance, can he expect to be successful with the same remedies in both instances? Can we reasonably expect to be successful in directing the course of a complicated case with the same treatment as where we have an uncomplicated case of the same disease? If the contents of our patients' stomachs or intestines are antagonistic to or neutralize the remedies we administer, how can we hope for good results? If we give remedies at times when they cannot be utilized in combating the disease, as, for instance, giving quinine to a malarial patient during the fever, why should we not expect to be disappointed in results? The trouble is that the therapeutic nihilist never thinks that he ever does such things. He can readily see how someone else might, but himself—never. There can be no possible doubt of the efficacy of quinine in intermittent fever, and yet cases arise in which it seems to fail. Is the quinine to blame for this, or is it the ignorance of the prescriber? If the latter, then it matters not whether that ignorance is shared in by every medical man in the world or whether it is only a deficiency in his own knowledge. The results are the same so far as his patient is concerned. Human knowledge is very deficient regarding causation in disease. If we knew the cause of every disease and the cause of every complication of that disease we should be approaching the time when we might expect to be able to administer our remedies with certainty. Does the man who claims to be sceptical of all treatment doubt the efficacy of parasiticides in destroying parasites upon the skin or mucous membrane? Does he deny that intestinal parasites of various kinds can be expelled and destroyed by the administration of proper remedies? Does he deny that quinine will arrest ague or mercuric salts syphilis? Does he doubt that coryza and bronchial catarrh can be aborted by inhaling the vapor of a 10-per-cent. chloroform solution of menthol? Does he doubt that pain can be checked by analgesics? But why multiply cases? Every physician can extend the list for enough to fill pages of this journal. The use of thyroid extract in myxedema is among the most recent achievements that we would respectfully commend to the attention of such sceptics. Let them try any of these we have named, if they have not already done so, and we believe their scepticism will soon disappear. For any person to assert that all the ills that flesh is heir to can, if curable, be treated successfully by hygienic methods, is to talk nonsense. What hygienic measure will expel a tapeworm? What hygienic measure will neutralize a poison whether it has been swallowed as such or produced by a microbe within the body? When lack of exercise, character of employment, or other cause produces severe constipation, what hygienic measure will relieve the patient in a reasonable time? By calling our remedies hygienic measures we might then endorse such a statement, but not otherwise. That there is an excessive demand for drugging by the laity is too true. That many physicians hope for success by promiscuous drugging in cases where their diagnosis is a doubtful one is also true. This, however, is no excuse for therapeutic nihilism.

AMONG THE EDITORS

THE INHUMANITY OF ANTIVIVISECTION

There is a vast field for humanity in this world of ours. To recapitulate the cruelties habitually perpetrated upon animals in the name of sport and commerce would be like quoting a time-honored proverb—a work of supererogation. And still these practices proceed unencumbered by unfriendly legislation and unhampered by humane restriction, while the labor, which properly directed, would accomplish untold good in these lines, is devoted to harassing humane study and embarrassing scientific investigation. The unfortunate degenerates, who in the face of real demands for humane intervention in so many directions, devote themselves to the obstruction of scientific and philanthropic research by the constant propagation of antivivisection prejudices, are genuine objects of pity. But they are objects of pity much in the same way as is the homicidal maniac—while they are pitiable, they are none the less dangerous.

In the name of humanity to a few animals they endeavor to perpetuate an illimitable inhumanity upon all posterity. The antivivisectionist avers that he would rather die than purchase prolongation of life with the sacrifice of an innocent animal. That seems fair enough. Probably his life would not be worth the sacrifice, but certainly there are millions of other lives, which are prolonged every year through the knowledge gained by animal experimentation, and every one of these is worth a thousand rabbits or guinea-pigs. Was it not the greatest of humanitarians, the Divinity himself, who said, "Ye are of more value than many sparrows."

It seems anomalous that in a century in which the benefits of animal experiment have produced results of inexpressible benefit to mankind, a movement to prohibit or restrict such study should have gained any progress. The reason for the seizure of scientific animal experimentation as a subject for persecution by the vivisectional sentimentalist is doubtless indolence. The work of the medical investigator has not been done in secret. His experiments are published in great detail and described with conscientious minuteness, in the lofty consciousness of innocence of wrong-doing. The material is all ready for the superficial critic. There is no necessity for observation or effort on his part—his material lies ready at hand; the experiments which to his purblind vision appear useless cruelties, are described more fully and in better language than he can ever hope to command. It is thus a combination of sentimental energy, scientific ignorance, and intellectual indolence upon which the antivivisectionist movement is based.

It would be absurd in this *Journal* to enumerate the numerous instances of benefit to the human race which have accrued from experiment upon animals. We cannot refrain from quoting with entire approval and serious earnestness a remark, which a prominent antivivisectionist made with evident sarcastic intent. "Apropos of 'new methods of surgical procedure,' " he writes, "it must be quite a comfort to a lady about to submit to a surgeon's knife to feel that there is no danger because he, the surgeon, has previously done the same operation on a cat." "Many a truth is spoken in jest," says the old saw, and never was there a more self-evident truth than in this case. No class of individuals appreciate the benefit of animal experimentation more than the sick who realize that by such means the ability to relieve their sufferings has been acquired. They readily join in a modification of Rosegger's apostrophe to the anatomical subject (*The Open Court*, June, 1897):

"Thou dear, fortunate animal! While the most of thy kind must be given over to the earth straightway, thou art chosen to be useful to men even in death! Through thy remains, before they turn to ashes, the flames of knowledge and intelligence will be kindled, of power and performance for the common weal, so that from thee, thou dumb animal, new life shall pass into the limbs of the sick. Thou art chosen to contribute to the welfare of humanity. I honor thee!"

The embarrassment of this high and holy work of preparation for contribution to the common weal is, then, undeniably unkind and inhumane. Never was there a truer instance of "Man's inhumanity to man!" Under the guise of an assumed humanity to animals, the antivivisectionist proposes, by depriving scientific students of the opportunities for necessary investigation, to impose untold agony and pain upon countless millions of future generations of mankind, to whose relief animal experimentation would contribute.—*Cleveland Med. Jour.*

CHRISTIAN SCIENCE

The mischief resulting from the practices of a clan, styled Christian Scientist, calls for notice by this journal. What they believe and practice concerns the physician only when they intrude their practices upon his patients, as is so often done. In some localities their number has largely increased. This increase is apparently due to a kind of mental contagion. Persons of like mental powers and peculiarities are susceptible to like impressions, which being communicated to one another results in a belief of being able to communicate with spirits and through them receive information which is accepted as reliable. The spread of this doctrine is like a contagion, except in place of its being a germ or poison it is a mental impression. It is like the suggestion of suicide to a hypochondriac, or as the influence of an hysterical female over one of similar nervous organization. So numerous have they become in certain localities that there is hardly a case of serious sickness that they do not call on for the purpose of taking a part in the treatment. Their interference in some cases is a serious matter. It is usually done secretly and in the absence of the physician in charge. They assemble in the sick-chamber, frequently several together, and "go into a trance," in which they see the organ or part affected, although internal, and are advised by the "spirit" what is best to do—sometimes a nostrum is given. The stomach is usually seen to be weak and the patient is urged to take "beefsteak and onions," without regard to the instructions of the physician. Should the patient die or be made worse the secret will be kept; if recovery takes place the cure is attributed to the secret violation of the physician's instructions. The writer has personal knowledge of such cases and believes that great harm often results to both patient and physician on account of such meddlesome interference. Physicians must be constantly on the lookout for it. There should also be some legal restraint put upon them, for often human life is at stake.—*Southwestern Med. and Surg. Reporter.*

THE PERILS OF MEDICAL PRACTICE

A large proportion of medical men, and especially of those who engage early in general practice, have occasion to regret the abolition of the old system of apprenticeship. When this system was in force, as it was, say, fifty years ago, the boy from school did not proceed at once to a hospital, but passed through an intermediate stage of pupilage or apprenticeship. As regards the acquirement of medical knowledge, the system worked more or less well, according to circumstances, inasmuch as some practitioners were better qualified than others to superintend a course of elementary professional study. However this might be, there were certain things which the pupil could scarcely avoid learning; and, among these, were the methods of conducting medical work. He would early be put upon his guard, by precept and by example, against the troubles which may arise out of attendance upon neurotic or hysterical women; and he would both see the nature, and learn something of the value, of the precautions which men of experience use in dealing with them. He would learn how to avoid compromising situations; and how to deal with them if they could not be avoided. Apprenticeship is dead, killed by the demand for a better and more prolonged general education than was formerly thought necessary; but it might be well if the Medical Council and the authorities of the medical schools would consider whether it might not be possible to arrange for systematic teaching of the principles of medical conduct. A boy of 17, who goes from a general to a medical school, and from a medical school into practice, may work with great credit at the recognition and treatment of disease, while he remains untaught and unskilled in the management of the patients in whom the diseases are manifested.

The famous question of Henry IV, "Who is she?" will very frequently arise in relation to the scrapes and perplexities of practice. Of course, the directly sexual relation is the origin of the most serious difficulties and entanglements; but a mere relaxation of caution in replying to the dexterous inquiries of a woman about her female neighbors may often be the occasion of a storm which it is far more easy to raise than to allay. The skillful querist who succeeds in obtaining from a young doctor some particulars about the illness of her friend will be very careful not to place him in a position in which he can disclose any confidences with regard to herself; and, as a mere matter of making way in practice, nothing is more important than the recognized habit of refusing to gratify curiosity. It will be remembered that not long ago a medical man was cast in damages for having informed a mistress, quite correctly, that her servant was pregnant, he not having obtained permission from the patient to make disclosures concerning her state; and many somewhat similar cases have been recorded. The recent trial in the Divorce Court, in which a gentleman employed as *locum tenens* was placed in the position of co-respondent with reference to the drunken wife of his employer, is full of interest and instruction, because, in all such conditions, it is the first step which costs, and it is only in the discretion by which the first step may be avoided that safety is to be found. A young doctor, as soon as he realizes the existence of sex in a female patient, or as soon as a female patient shows any indication of recognizing it in him, will, if he be wise, manage never to have any professional interview with her within closed doors, except in the presence of another woman. Nor will he accompany her on moonlight walks in unfrequented places, where he and his companion are sure to be seen by somebody who will be likely enough to put the worst possible construction upon their proceedings. Such situations, moreover, have often furnished occasions for that form of extortion which the French call *chantage*, and for which we have no equivalent English word or phrase, unless it be the absolutely inappropriate one of "blackmailing."—*The Hospital.*

THE INFLUENCE OF CYCLING

Recently two physicians were riding through the country. After a moderate pace for five miles a stop was made, and the pulse of one was found to be 80, the other 92. After climbing a steep hill the one was accelerated to 105, the other to 136. Two minutes' rest reduced the rate to 90 and 120 respectively, and after five minutes more of moderate pace on a level road the pulse-rate of the first was 80, while that of the other was 100. There is no doubt that to the second man bicycling is harmful and dangerous, and it is well to ask patients who question us as to the advisability of their riding, to note their pulse-rate while riding under the varied conditions of level and hill met during an afternoon's run. A failure of the heart to normally regain its normal action under moderate exercise after extra exertion is proof that there is danger.

The best time to ride is in the early morning. The country is at its best, the air cool, the road least dusty, and nature looks her prettiest for the man who will rise and take an early spin.

Five or ten miles of riding and a bath before breakfast will be an excellent vacation for many a physician who does not feel able to take a longer rest.—*Atlantic Med. Weekly.*

DUST

Micro-organisms are the great producers of disease, and dust is the chief carrier of micro-organisms. If there is any one ubiquitous thing, it is dust, and yet, notwithstanding its dangerous contents, it is being continually poked up, so to speak. As soon as the housemaid is up, it is hustled and dusted into the air, so that by the time the family is astir any germ which may have quietly settled in some corner where it could do no harm is floating about in the air, ready to appropriate any convenient and moist resting-place, such as the human lungs or a bit of the breakfast, which will shortly carry it into one of the inmate's systems. The street-cleaning department, too, spends much of its energy in simply stirring up the dust about the streets; a little of it is carried off in carts each day, but every particle thus removed has probably been stirred up and allowed to settle a dozen times. The carpets and upholstery of modern houses were apparently designed as dust-collectors. It is impossible to clean thoroughly a thickly upholstered sofa or chair, and almost as difficult to get a modern carpet or rug clean; these articles always contain more or less dirt, which in the case of the carpet is superficially stirred up at each sweeping. In fact, the reckless way in which house- and street-cleaning are handled is really appalling. Dusting should always be done with a damp cloth, and carpets cleaned by a closed sweeper well filled with wet tea-leaves. The street-cleaning problem is simply a question of water-supply. A thorough flushing of the streets once or twice in twenty-four hours offers a simple hygienic and thorough solution.—*Popular Science Monthly.*

WHO ARE WE?—NOT ALLOPATHS

There is nothing so greatly disgusting as the effort to foist upon the regular medical profession the term Allopath. Time and again we have cried aloud against this insult to honorable medicine; but those who are not only tainted, but organically infected, with the sickly poison of so-called Homeopathy, which in itself does not exist, still persist, against our solemn protest, to foist upon us this daily repudiated name. What have we to do with any "pathy"? How long will they abuse our patience?

A doctor is a doctor, a teacher, or, at least, recognized as such. . . .

We claim that no man has a right to call any accredited surgeon or physician of the regular medical profession by any fancy "pathy." We have never yet permitted such words to be used in our presence, and we never shall so long as we feel it honorable to be a medical man.—*St. Louis Clinique.*

SELECTED PAPERS

THE MODE OF ACTION OF MEDICINES*

By D. J. LEECH M.D. F.R.C.P.,

Professor of Materia Medica and Therapeutics, Owens College. Victoria University. Manchester;
President of the Section

THE Section of Pharmacology and Therapeutics, over which I have the honor to preside, is one of those which is not always constituted at the annual meeting of the British Medical Association. The fact that one side of its work—the therapeutical—can be dealt with in other sections is doubtless the chief cause of this; a second may be a certain lack of interest in pharmacology. Comparatively little attention has been given in England in recent years to the cultivation of knowledge concerning the method in which remedial agents act. In most countries, however, a constantly increasing interest is being shown in determining not only the action of remedies, but the mode of their action. The establishment on this side of the water of that admirable periodical, the *Journal of Experimental Medicine*, in which pharmacology takes its place with physiology, pathology, and medicine, is a valuable sign of this interest, and my great pleasure at being honored with the office of President of this Section is heightened by the feeling that by its constitution on this occasion evidence is given of the appreciation of the scientific as well as the practical side of therapeutics in this country.

The basis of therapeutic practice is, or ought to be, observation; but therapeutic observations are commonly made on experiments or trials which are the outcome of opinions held as to the nature of disease and cure, and these opinions are apt to bias judgment. Even when we give long-used drugs, we commonly make trial of them under new conditions; each trial is accompanied by some preconceived idea, and hence practical therapeutics always has been largely influenced by views as to the nature of disease and cure. Now, among these views none have been more potent in their effects on practice than those relating to the methods in which remedial agents act; and since recent discoveries in the arena common to physiology, pathology, and pharmacology bear in an important manner on these views, a few remarks on present and past opinions as to the methods in which medicines act, and the influence of these opinions on therapeutics, may, it seems to me, be a fitting introduction to the work of the Section. As regards past views, however, I will confine myself, as befits the year in which we meet, to the period of our Queen's reign.

Sixty years ago the main lines of the pharmacological views now prevailing had already been laid, though the chief postulate on which they rested was by no means universally granted.

One of the ablest pharmacologists of the day—Pereira—writing in 1836, set forth general views with regard to the actions of medicines which are for the most part accepted now. They act usually, he held, after absorption, and, being carried by the blood to the various parts of the body, influence the tissues and therefore the functions of organs which, from some unknown cause, have a special attraction for them. The exact methods in which they thus influence tissues, he considered, were involved in impenetrable mystery. But the very basis of this view as to the action of medicines, their absorption from the stomach prior to the production of their effects, was not accepted by many eminent observers. The discovery of the marked influence which may be produced owing to the conduction of impressions in a direct or reflex manner had greatly impressed men, and in the absence of knowledge we now have as to the nature of disease, there were difficulties in accepting the view with regard to absorption. Travers, for example, pointed out that a punctured wound causes tetanus as strychnine does, and he argued that as it was not likely that the effects were produced in different ways, and that, as in the case of injury, there could be no absorption, the influence of strychnine was not due to its absorption. Brodie and Todd Thomson held similar views; they did not, indeed, deny that absorption takes place sometimes, for the presence of active principles taken by the mouth in the secretions of distant parts of the body had long been shown; but they held it probable that the effects of medicines of the various organs were in many cases due to the influence conducted from the nerves of the stomach.

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* An Address delivered at the opening of the Section of Pharmacology and Therapeutics, at the Annual Meeting of the British Medical Association, held at Montreal, September, 1897.

Pereira pointed out that medicines may act in other ways, as, for example, by reflex influence, by simply adding some substance to the blood which is wanting in it, or by producing chemical changes, but he did not think that the chemical constitution of a substance bore any important relation to its action.

The views which Pereira enunciated gradually gained ground; but Headland, writing on the action of medicines eighteen years later, still considered it necessary to prove at considerable length that drugs, when taken internally, act for the most part only when they have been absorbed. In his philosophical work he drew attention to the necessity for distinguishing between knowledge of the action of drugs in health and of their effects in diseased conditions. But he pointed out that the former is insufficient, inasmuch as the conditions of action are quite altered by disease; and whereas Pereira adopted a physiological classification, arranging medicines according to the method in which they influence organs and tissues, Headland classified drugs according to the manner in which they operate in diseased conditions, trying to indicate the exact methods in which they influence pathological conditions so as to combat the effects of disease.

The views Headland upheld as to the necessity for such knowledge have borne good fruit, though his hypotheses have for the most part not been sustained by further investigations. Let me here point out that the widening of research into drug-action, so as to include their influence in disease as well as health, had led in Great Britain to the introduction of a new word, or rather to the modification of an old one. The term "physiological action" can only be applied to the action of an agent on healthy tissues and organs. It cannot include the effect produced in diseased conditions. Yet investigations are constantly made concerning these effects, entirely apart from any consideration of curative influence. To express that department of knowledge which deals with the general action of drugs, apart from their therapeutic use, the word "pharmacodynamics" existed, but it was felt to be in several ways unsatisfactory, so the word "pharmacology," which had been hitherto used as synonymous with materia medica, was borrowed as a new name for the growing department, and made to include the action of remedial agents in health and disease, and this, too, in a wide sense, since it deals with the causes as well as the conditions of disease.

In the early part of the period of which I speak, the Brunonian doctrine, that all medicines really act as stimulants, though in a varying degree, no longer held its ground; and faith in the Rassorian view, that remedies are either stimulants or contra-stimulants, was waning fast. But, perhaps owing to the past prevalence of these doctrines, we find that the word "stimulant" was used in a somewhat different sense than at the present time. It was constantly employed in a vitalistic sense to indicate something which called forth the unknown vital force. Medicines were ranked as stimulants without any definite view that they increased activity of function in any particular part of the body. And many other words, as "sedatives" and "tonics," were used in a looser manner than at present.

The explanations given to the mechanism by which drugs act were in many instances founded on mere suppositions. Effects we now know to be the result of the direct action of an agent on glands, on nerve-endings, etc., were then supposed to be due to impressions conveyed by nerves directly from the stomach-wall. On the other hand, the important part really played by the conduction to peripheral parts of effects produced by drugs on nerve-centers was little known.

Then there was a widespread impression that the capillary system was the chief seat of action of most drugs. It was thought by some, for example, that the effects of mercury, iodine, as well as colchicum, bark, and antimony, were due chiefly to their action in contracting the capillaries; and to certain drugs, the exact effects of which were quite unknown, was attributed a power of stimulating the capillaries generally, so as to cause increased flow of blood through them. The real power which many medicines have of dilating or contracting vessels was unsuspected. In the absence of exact knowledge of the mechanism by which drugs produce their effects, hypotheses were numerous.

The chemical theories of the day, especially the ingenious suggestions of Liebig for explaining the effects of certain agents, added to the diversity of views which existed as to the method in which medicines produce their curative effects, and the investigations into physiological action, though well commenced, had not advanced far enough to curb erratic theories.

The views taken as to the powers and uses of various drugs differed much. Mercury, for example, was regarded by some as acting directly as an absorbent, by some as dissolving fibrin and corpuscles, and thus combating inflammatory processes and promoting absorption, whilst it antagonized syphilitic poison if present. Another observer regarded mercury as a tonic exerting its influence by contracting the capillaries. Digitalis was regarded by some as a sedative to the nervous system, by others as acting chiefly through its depressing influence on the heart.

The practice of every time and in all places, though supposed to be the outcome of experience, is really dominated by the theories prevailing, and the diversity of views existing in the early Victorian period was well reflected in the diversity of practice we find prevailing.

The laborious work of many observers quickly added much to what was known when Pereira first wrote concerning the physiological action of drugs, and their effects in pathological conditions. It became evident that a drug may depress or excite the function of one part of the brain and not another; that by acting on one part we may inhibit the action of another part without acting directly on it, or remove the inhibitory action already existing; that in the heart a drug may act on the muscle and strengthen its action, and yet check its speed by influence exerted elsewhere; that a tonic acts by definitely increasing the nutritive changes in certain parts: and so the words "stimulant," "tonic," and many others of a similar kind, acquired more definite accepted meanings, and became associated with distinct effects on various parts of the body-structures.

Then, again, the exact tissues in various organs on which drugs act was determined with constantly increasing certainty. It was shown, for example, that one drug might act on nerve-endings in a gland—another on the gland-structure itself. As a consequence, many old hypotheses founded on incorrect suppositions died out, and with them disappeared the practice to which they had led.

But the increasing exactness of knowledge concerning the action of drugs did much more than relieve from the incubus of groundless theories and the consequences thereof. It led to new and valuable knowledge as to the therapeutic uses of drugs, which simple observation had failed to discover. Strychnine, for example, had long been used in paralysis and other ailments, on account of its known action on the spinal cord, discovered by Majendie. Yet for years it was not employed in cardiac and respiratory troubles. When, however, it was shown by P. Rokitansky that it stimulated the respiratory center, it was tried in pulmonary diseases, and has since become one of the most largely used and important stimulants in serious lung-disease.

The history of digitalis is very interesting as showing the bearing of pharmacology on the knowledge of the real therapeutic use of drugs. Withering, by careful observation obtained a good knowledge of the action of digitalis. He not only pointed out the conditions in which it is of service, but even indicated the nature of its cardiac action; for he pointed out that it is of special use (as a diuretic) when the pulse is feeble and intermitting, but seldom useful when tension is high, or, as he put it, "in those with a tight and cordy pulse." This was in 1785. Nevertheless, for more than fifty years it was regarded by almost all as a cardiac depressant, and in many books on medicine recommended under entirely wrong views as to the nature of its therapeutic effects. It was not until its real pharmacological action was discovered by experiments that its true therapeutic rôle became generally recognized and utilized. A well-observed therapeutic fact is often neglected until pharmacology points out its cause and bearing.

Then, again, the new department of pharmacology added largely to our agents for treating disease. It was the powerful physiological influence found by experiment to be exerted on animals by the active principles and drugs discovered in the early part of this century which led to the therapeutic trials of many and the introduction of some into the Pharmacopœia, and Brunton's discovery of the value of amyl nitrite, which was the outcome of the physiological examination of the nitrites by Gamgee, is a well-known instance of the value of pharmacological research. But it was to an advance of knowledge beyond that which Pereira thought possible—the recognition between the chemical constitution and physiological action—that we owe the discovery in recent years of a large number of substances having valuable therapeutic properties. The chemist and pharmacologist have worked together; it has been found possible to find out the influence of various chemical groups, and to join these groups together in various ways, so that the products should have, to some extent at least, the effects which might be anticipated from the influence of the groups. and most valuable additions have been made to our therapeutic agents in consequence. At one time it seemed that with increasing knowledge of the nature of disease and the action of drugs, and of the construction of remedies, pharmacology would march straight to victory, that we had only to accumulate information relating to antiseptics, and to determine more accurately the influence exercised on tissues and organs by groups and compounds to acquire the power of combating all forms of evil. There seemed ground for hope that, as the pathologist pointed out the causes of disease and the changes produced in the organs by it, the pharmacologist might be able to devise a drug which should remove the cause or antagonize the effects.

Our knowledge of the method in which drugs remove the cause of disease. and counteract its effects, did greatly increase also our power of lessening suffering, but something more was required. We could not combat the evils produced by disease at all points of attack, and so it came to pass that whilst in some cases we could bring about recovery, in many we failed. And no way was made in the discovery of substances capable of antagonizing at all points the functional changes and pathological conditions characteristic of special forms of disease. We found no drugs which act as mercury does in syphilis, and the action of this, and also of some of the best known of our remedies, remained undetermined.

But in very recent times, owing to the investigations of pathologists and physiologists, light has come. The discoveries made concerning the curative influence of thyroid-gland action and the action of toxins and antitoxins, mark a new departure in therapeutics. How do they affect existing views concerning the action and use of drugs? On this point opinions differ.

Dr. Saundby, for example, is of opinion not only that the recent discoveries with regard to pathogenetic organisms and their products open up to us an altogether new prospect in therapeutics upon the threshold of which we are now standing, but that the system of pharmacology is about to pass into the limbo of the forgotten; and Professor Behring, of Marburg, thinks that in the light of serum treatment all our older views must vanish. Cellular pathology, he says, has become unfruitful for therapeutics. It is vain to treat the organs which are affected. Serum treatment, if we may judge from the summary of his paper which was read at the recent "Congress für innere Medicin," is alone efficient. If Behring's view as to its nature is correct, its study is almost outside the boundaries of pharmacology, for he holds that antitoxin is not a definite chemical compound, but a quality, inherent in certain albuminous substances as magnetism is in the magnetic oxide of iron. If antitoxins are powers, not substances, we are almost carried into the mystic world in which pharmacology has no place. There seems little probability that the view of this enthusiastic supporter of serum treatment has any real foundation, and as I do not know the reasoning which has led to its adoption I shall not attempt to controvert it. The general bearing, however, of treatment by animal substances on our views as to the methods in which medicines act is worthy of consideration. My contention is that new discoveries, whilst extending the domain of pharmacology, are in no way opposed to its long-established teachings, that the various animal substances act on the same lines as the older remedies, though they possess certain properties which are wanting or less apparent in ordinary drugs, and that even if the most sanguine expectations of their powers are fully borne out, the utility of the pharmacological knowledge already acquired will not be lessened.

Concerning the action of thyroid and allied substances, I need say but little. Physiological and pathological investigations indicate that the ductless glands, and even those which furnish excretions, supply some material which passes into the blood, and it is just possible that other tissues do the same. These internal secretions are probably necessary for the chemical transformation of other substances in various parts of the system, and if the supply be defective illness results. By giving thyroid gland we can certainly remove the effects due to an insufficient supply of its secretions, and reason has been given for believing that several other animal substances and their extracts yield, when given internally, material wanting in the blood, and thus prove of advantage in some diseases. But we have here no new pharmacological principle. The administration of a remedy for the purpose of adding something to the blood which it has not in sufficient quantity is not a departure from ordinary therapeutic proceedings. In the case of the thyroid, the substance which gives its power to the gland, or at least which contains the active material giving its power, has been separated, and we shall have an account of it from Dr. Hutchinson.

The action of toxins and antitoxins requires to be fully dealt with, but before comparing their action with that of other medicinal substances, let me point out opinions formed in late years with regard to the intimate action of the latter.

In the first place, it has become clear that for the changes in functions or tissues we must chiefly look to the effects produced by drugs on the ultimate tissue-elements, or cell-protoplasm that is, and Schmiedeberg long ago pointed out that this influence was to some extent molecular. The presence of molecules of elements or compounds seems to produce some effect on those of the protoplasm which leads to change in function of the tissues into which the protoplasm enters. But this change only lasts usually as long as the molecules of the elements or compounds are in contact with the organic elements, which commonly work on in a normal manner after the excretion of the drug molecules. We can show this experimentally. If the gastrocnemius of a frog be soaked in a dilute solution of nitrite of sodium its function of contractility is powerfully altered, yet as soon as we wash out the nitrite the normal function of the muscle is restored. What the nature of the relation is between the molecules of the drug and the molecules of the protoplasm we do not know. Sometimes undoubtedly chemical changes occur. For example, the protoplasm may withdraw oxygen from the drug, and in this way its functions may be modified and the drug may be altered in composition. From what we know of the action of chemical compounds on protoplasm it is quite possible that a compound at times forms some kind of chemical union with the protoplasm, and perhaps even when there is no chemical change as in the case of the nitrite, there is one in reality. But there is also reason for thinking that the molecules of a compound may influence the protoplasm in a catalytic manner. We know, for example, that if dilute hydrochloric acid be added to an aqueous solution of methyl acetate it leads to the decomposition of the acetate into alcohol and acid without itself undergoing any alteration. It is quite possible that pharmacological agents may likewise influence chemical processes in the protoplasm without themselves being changed; but however this may be, it seems clear that the primary effects of remedial agents are exerted through their influence on cell-protoplasm, the nutritional proceses of which are altered, with the result that the tissue into which protoplasm enters is altered in function.

In some instances their continued contact seems to give rise to further changes; something occurs which causes the drug molecules to lose their usual influence and immunity is produced. How far this immunizing effect of tolerance on drugs extends we do not know. It seems to occur in certain people only in the case of arsenic. The alkaloid morphine is the best example of it, but it has been shown by Ehrlich to be produced by the two vegetable albuminoid substances, ricin and abrin.[1] On the cause of immunization we can only speculate. The cell-protoplasm may, owing to some alterations in its functions, expel the drug with unwonted quickness or destroy it, but it seems more likely that some change takes place in the nutrition of the cell which renders it insusceptible to the influence which, under normal conditions, alters its functions.

Turning now to the toxins, it may be noted that they disturb the functions of the various organs like other pharmacological agents. They have a definite physiological action, and there is no reason for believing that they act on tissues in a fundamentally different manner from other medicinal agents. They have indeed a more marked power than most drugs in producing immunity. It is impossible to say whether in this matter they act like ordinary drugs, but it can hardly be doubted that they produce their effects in a similar if not in the same manner.

A third property which toxins have has not been shown to be common to the medicinal agents hitherto employed. They lead to the production of antitoxins, but how we know not. Protoplasm has the power of altering substances which come in contact with it, and it is possible to imagine that by some subtle chemical influence the toxin is converted into a substance directly antagonistic to it in physiological properties. But it seems far more probable that antitoxins are produced by the protoplasm itself under the influence which the toxin exerts upon it. It is known that in the serum of blood there is a bactericidal substance, and many years ago Hankin pointed out that the blood of certain animals normally contains what he calls a defensive proteid, to which Buchner subsequently gave the name of "alexin," and which practically is an antitoxin. If cell-protoplasm has the property of thus normally producing such defensive material, it is not difficult to imagine that under the influence of certain toxins it may produce special antitoxins.

The difference between the effects of the chemical compounds which form the active principles of hitherto used drugs and the toxins, with regard to the production of antitoxin, is probably connected with the difference in chemical constitution. It is easy to understand that unstable albuminoid bodies related in composition to the protoplasm itself are likely to have special influences in producing those changes which lead to immunity, and in causing the formation of antitoxin, which substances of a simpler chemical composition have not. This is the more likely, because, although we have no proof as far as I am aware that any of the older-used drugs lead to the production of antitoxin there is reason to believe that certain vegetable albuminoids are capable of doing so. Ehrlich states, for example, that the toxalbumin, ricin, derived from castor-oil seed, not only causes immunity but also the formation of an antitoxin in the blood, which protects from the poisonous influence of ricin. The difference in the mode of action of antitoxin and ordinary drugs we cannot explain, for as yet antitoxins have not been separated, and we can only guess at the methods in which they produce their effects.

They seem to have a wider power than the older drugs, since they appear to be able to antagonize the influence of toxins, not at one or two points only, but at all or almost all. How they do this, we do not know. There seems good reason for believing that they do not neutralize toxins as an acid neutralizes an alkali. At least Calmette has shown that neutralization does not obtain in the venins and antivenins, the action of which very closely resembles the toxins and antitoxins. For he finds that if a mixture of venin and antivenin, which is non-toxic because of the antagonistic influence of the two substances, be exposed to a temperature of 68°, the power of the antivenin is destroyed, but not that of the venin, which now can exert its toxic influence. It seems probable that the antitoxin acts on the molecules of the protoplasm in some way, and prevents the toxin exerting its ordinary influence. There is no reason for believing that the effects of antitoxin are produced in a manner dissimilar in kind to those of other drugs. The action, then, of the new animal substances seems not dissimilar from that of our older remedies, but their powers widen our ideas of the methods in which medicines act. They point also to possible explanations of much which has hitherto been inscrutable. May it be, as has been suggested, that drugs do something more than influence molecular conditions, that they cause the production of something which is itself an active agent—that, for example, in the case of mercury, it is not the metal itself which antagonizes the syphilitic poison, but something which it causes the protoplasm to produce and pour into the circulation? May it be, again, that what we call immunity is due, in the use of medicines as well as toxins, to the production of a kind of antitoxin? What may be the outcome of the new discoveries we cannot distinctly see; but of this we may be quite sure, that even if the sanguine anticipations concerning these are realized, the pharmacological information which has been acquired will in no way lose its therapeutic value. We shall want drugs even though we have serums, for symptoms will have to be met, and the very character of serums precludes the hope that they can be used to treat all forms of disease.

And of this we may also be certain—a large number of the observations which are the outcome of the enthusiasm excited by the new discoveries will be fallacious, for therapeutic observations, as I have said at the commencement, are biased by preconceived ideas, and when the ideas are wrong the observations are often so too. The more full our knowledge of the mode of action of the new agents, the better our information about their effects upon the organs and tissues, the less likely our judgments concerning their defects go astray, and we must wait for a fuller knowledge of their action on the various organs before we can use them without constant fear of evil. Knowledge of the action of drugs must be combined with careful observation of their curative influence. It is the combination of pharmacology with therapeutics which gives the value to the work of this section, and we shall have several important discussions which will probably illustrate this. That on the treatment of syphilis will show the difficulties we labor under from defective knowledge of disease and drug-action, but it will show, too, how patient observation, long continued, may, to some extent, make up for such defective knowledge. For nearly 300 years the use of mercury and other remedies in syphilis has been debated, but, because the nature of syphilis and the action of mercury were quite unknown, the utmost divergence of opinion existed in earlier times as to its use. On both points some knowledge has been gained, and differences in view are not now so wide as heretofore, yet we shall probably find that on some points observations have led to very different results.

The discussion on the treatment of insomnia will illustrate our indebtedness to the combination of pharmacological and chemical knowledge, since for a large number of new hypnotics we are indebted to this conjoint working. Objection is sometimes taken, and with justice, to the multiplicity of similarly acting drugs brought before our notice, but it may well be that by careful observation of the exact properties of the many hypnotic agents we have now to choose from, it may be possible to fit each one into its own niche—to determine, that is, the exact conditions under which each one acts better than the rest.

The third subject for discussion, diuretics, has in recent years been illuminated by pharmacological investigations, which, though they may not have cast fresh light on the effects and importance of increasing kidney-secretion, have nevertheless made clear the manner in which diuresis may be brought about, and the tissues affected in the process.

By these discussions, and the information given in the many papers which are to be read, I think we may confidently hope that something will be added to the general stock of knowledge concerning the cure of disease and the relief of suffering, which is the aim and end of medicine.

THE RELATIONSHIP OF PHYSIOLOGY, PHARMACOLOGY, PATHOLOGY, AND PRACTICAL MEDICINE*

By T. LAUDER BRUNTON, M.D., D.Sc. Edin., LL.D. (Hon.) Aberd., F.R.C.P. Lond., F.R.S.

GENTLEMEN—The desire for knowledge which is common to the lower animals and man, savage or civilized, and has induced members of this Congress to come from the ends of the earth in order to gain information, must have led primitive man from the earliest times to study the great problems of physiology, the nature of life, of growth, of reproduction, and of death, as well as to notice the connection of the latter with mechanical injuries, such as the wounds inflicted by spears or by the teeth and claws of wild beasts. Next to the problems of physiology come those of pharmacology, by which I mean the poisonous or remedial action of various substances—mineral, vegetable, or animal. A knowledge of this subject is found even amongst the lowest savages and is of the greatest use to them, for it enables them, on the one hand, to avoid eating things which may cause discomfort, pain, or death, and, on the other, to obtain food by poisoning waters and thus catching fish, or by poisoning their arrows to kill game which would otherwise escape. Closely associated with the knowledge of the poisonous is that of the curative powers of herbs, and it is possessed by animals as well as by man, for cows avoid noxious plants, and dogs will every now and again eat grass apparently as medicine. Primitive peoples use various substances as remedies in disease with more or less success, and one of the most extraordinary points in their practice is that they seem to some extent to have forestalled the newest researches on venins, anti-venins, and organotherapy, for in Africa the bushmen are accustomed to drink the poison of venomous snakes as a prophylactic against their bite, and the Hausas prevent hydrophobia by killing the mad dog and making the man it has bitten eat its liver. The occurrence of death from wounds or poison is intelligible even to a savage, but when illness and death occur independently of these, men naturally attribute them to invisible powers. Thus the Dyaks of Borneo ascribe sickness to wounds from invisible spears wielded by invisible spirits, and during an epidemic of disease in the middle ages the cry often arose that the wells had been poisoned. These crude ideas contain germs of truth, and when we look at Professor Metchnikoff's drawings of a daphnia attacked by a monospora we seem to recognize the invisible darts of the Dyaks, while during the epidemic of typhoid fever we have often to acknowledge that our wells have been poisoned by bacilli.

It is impossible to trace the steps by which the crude ideas of savage peoples regarding physiology, pharmacology, and pathology, have grown into definite sciences, or even to indicate the most important landmarks, though we naturally think of the names of Alkmaon, Galen, and Harvey in physiology; of Nicander, Magendie, and Bernard in pharmacology; and of Morgagni, Virchow, and Pasteur in pathology. During this century these three sciences have developed with almost incredible rapidity, a complete knowledge of them is enough to tax severely the most retentive memory, and it is almost impossible for any individual to keep up with the advance of all three of them. But just as the whole subject of astronomy became suddenly simplified by a change of standpoint at the very time when cycles and epi-cycles became most bewildering, so at the very time when these three sciences are becoming most complex and diverse they appear to be tending to unification and simplification. Pathology, for example, is now becoming to a great extent a branch of pharmacology, for while a few years ago its chief object was to discover, examine, and classify the microbes which give rise to disease, it is now striving rather to discover the nature and actions of the ferments and poisons which they form, and by which they are able to cause disease and death in the animals they attack. Pharmacological investigation, instead of being confined to the alkaloids and other poisons formed by higher plants, has now extended to those formed by microscopic plants or microbes, and thus comes to include a great part of pathology. In the same way, though pharmacology is a branch of physiology, inasmuch as it deals with the phenomena of life as modified by drugs, yet physiology may, to a certain extent, be regarded as a branch of pharmacology, because some of the latest researches regarding the processes of life have been made by pharmacological methods, using the products of animal life instead of vegetable poisons. Amongst the pioneers in this line I may mention my two masters, Kühne and Ludwig, the former of whom by his chemical investigations has enabled us to differentiate the various products of albuminous decomposition, whilst the latter, with his pupils Schmidt-Mühlheim and Wooldridge, discovered the poisonous action of albumoses and peptones, and of the juices of various tissues when injected directly into the blood.

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* An Address delivered at the International Medical Congress at Moscow on August 7 (19), 1897.

Before the proteid constituents of our food can be absorbed they must be split up during digestion into albumoses and peptones; yet these researches show that the very substances which are necessary to repair waste and are indispensable for the continuance of life prove fatal when introduced into the body in a wrong way or in too great quantity. But the products of the digestion of albumin do not normally enter the circulation as albumoses and peptones. During absorption they undergo changes of a synthetic nature in the walls of the intestine, and probably to a certain extent also in the liver, so that they again form harmless substances, and their poisonous properties are destroyed before they enter the general blood-stream. But how is it that the ferments which decompose albuminous food and form poisons from it in the intestines do not pass into the blood and kill the animal by digesting the tissues and forming poisons from them? Of course, pepsin cannot do so, as it only acts in an acid medium; but there is no such hindrance to the action of trypsin, and yet it does not destroy the tissues composing the body itself. In all probability, the reason why digestive ferments do not digest the tissues is not that they are destroyed in the digestive canal, or yet that they are not absorbed, but that they are altered from active enzymes into inert zymogens, which can be stored up without risk, and can again liberate active enzymes when these are required to digest a subsequent meal. In this respect they may be compared to the knives used by wandering peoples to cut up their meat, and which are not thrown away after each meal, but are simply put into sheaths, which cover their edges and deprive them for a time of their cutting power.

But it is not in the intestine only that enzymes are found; they are also poured into the blood by the pancreas, and probably by the thyroid and other glands. As our acquaintance with the processes of cell-life increases, it seems more and more likely that the tissue-change on which functional activity depends is effected by enzymes, and the truer do the speculations of Van Helmont appear—that life is a process of fermentation. There can be little doubt that if enzymes in a free state were to circulate through the body they would do much harm, and, indeed, we may regard this as well-nigh proved in regard to the enzyme of tetanus. But their action is limited either by their conversion into zymogens or their localization to the cells or tissues where their action is required. This is more readily seen in plants than in animals, and one of the best examples of it is that in germinating wheat. In the ordinary state of the grain the diastatic ferment is kept apart from the starch by a small layer of cellulose, through which the diastase cannot pass, but during germination another ferment appears which has the power of dissolving cellulose, and by breaking down this dividing membrane it allows the diastatic ferment to act upon the starch, and renders it available for the needs of the growing plant.

Enzymes appear to differ amongst themselves nearly as much as albumin, albumoses, and peptones. Some are easily separated from the cells in which they exist, whilst others are so closely united to the protoplasm that their separate existence apart from it has been denied. The yeast-plant, for example, yields an invert enzyme which can be extracted with comparative ease, but the enzyme which splits up sugar into alcohol and carbonic acid is so firmly attached to the protoplasm of the cell that it is only within the last few months that it has been isolated by Buchner by the application of enormous pressure. It is probable that the enzymes contained in the cells of the animal tissues differ in like manner, and that by the use of similar methods we may obtain a number of enzymes with which we are at present unacquainted. But it is not merely the products formed in the digestive canal or in the organs of animals during life, or even the alkaloids that are formed by the higher plants, that act as poisons. The processes of life are much the same in the lowest microbes as in animals or in the higher plants, and these microbes, by forming ferments and poisons, give rise to disturbance of function or death in animals. When grown in suitable media outside the body they produce enzymes and poisons, albumoses and alkaloids, and many of them continue to do so after their introduction into the body.

One of the most curious points, both in the chemistry of the higher plants and of microbes, is that they tend to form at the same time a poison and its antidote. In Calabar bean, for example, we find there are two poisons—physostigmine and calabarine, the former tending to paralyze the spinal cord and the latter to stimulate it, so that each poison to a certain extent antagonizes the other. The same condition is found, even more markedly, in jaborandi, of which the two alkaloids, pilocarpine and jaborine, antagonize one another's action, so that, although pilocarpine generally greatly predominates, it might be possible to get a specimen of the leaf having no action at all, although it contained a quantity of alkaloids. When injected into animals, the toxins formed by microbes and the venins of serpents cause the production of antitoxins and antivenins, which neutralize their action, apparently by chemical combination, in somewhat the same way as an acid and alkali, each poisonous by itself, combine to form a comparatively inert salt. But the two components here, like an organic acid and a mineral base, are unequally affected by destructive agencies, and the antivenin may be destroyed, so that the venin again regains its activity. The conversion of zymogens into enzymes may be compared to the freeing of venins from their compounds, while the conversion of active venins into inert bodies by combination with antivenins suggests that a similar process may occur in the case of active enzymes, by which they may be converted into inactive zymogens.

Perhaps the hypothesis I mentioned eight years ago to my pupil and friend, Mr. Hankin, that the germicidal power of organisms is proportional to their power to produce enzymes, may not be altogether unfounded, and possibly we may discover also that immunity, natural or acquired, is nothing more than an extension to the cells of the tissues generally of a power which is constantly exercised during digestion by those of the intestine and liver. This problem is one which pertains to all three sciences, and has a most important bearing on practical medicine.

Practical medicine, except when empirical, depends for its advance on physiology, pharmacology and pathology. A knowledge of the physiology of digestion has led to the satisfactory treatment of dyspepsia by the administration of digestive enzymes, and pharmacological research has enabled us to treat diseases of the circulation with a success previously undreamed of, by teaching us not only how to use aright old remedies, such as digitalis, but also how to apply new ones, such as strophanthus and amyl nitrite, and even to manufacture others, such as nitro-erythrol, which possesses the special actions we desire, but which are lacking in the drugs we already have. Indeed, new remedies, which shall alter tissue-change, lower temperature, relieve pain, and procure sleep are now being made in such numbers that it is hard to keep count of them. But amongst all the new gains of practical medicine, none are so remarkable as those which we owe to pathology. Time would fail me to speak of the prevention and cure of zymotic diseases, but no less astonishing is the discovery that myxedema depends on inactivity or absence of thyroid gland, and can be cured by the administration of its extract, which seems to act as an enzyme on living tissues, so that the heavy, shapeless features of the patient resume their natural expression, and the sluggish mental processes become quickened. An exhaustive study of enzymes and their products appears to be the most promising way of advancing our knowledge both of the nature and treatment of disease. Probably more is to be hoped for from an investigation into the nature and properties of those enzymes which are intimately associated with the protoplasm of the cells in the various tissues and organs than even of those which are poured into the blood by glands having an internal secretion, such as the thyroid. For all organs—even those which, like muscles and nerves, are not glandular—have an action on the blood comparable to that of the yeast-plant, which modifies the fluid in which it lives by the substances which it removes from or adds to it. It is to a knowledge of the processes which occur in the protoplasm of the cells in the intestinal wall and liver, and of the enzymes by which these processes are in all probability carried out, that we must look for an explanation of the conversion of the poisonous albumoses formed during digestion into innocuous albumins, and of dangerous enzymes into harmless zymogens. Moreover, it seems to me that it is by researches into the nature and action of the enzymes, not only of microbes, but in the various tissues of the body in higher animals, that we shall learn how the microbes, like the enzymes of the intestinal canal, produce poisonous albumoses, and how the tissues, like the cells of the intestinal walls or liver, convert them into harmless or even protective substances. In this way we may hope to obtain an explanation of toxins and antitoxins, of pathogenesis and immunity, as well as of the nature of diseases unconnected with the presence of microbes, such as diabetes. Twenty-three years ago I attempted to obtain a glycolytic enzyme from muscle, in order to enable diabetic patients to utilize the sugar in their blood. My attempt was unsuccessful, but we may still hope that by other methods we may obtain from animal organs various enzymes, the administration of which may prove as useful in other diseases as the thyroid gland in myxedema.

Practical medicine depends on physiology, pharmacology, and pathology, but all three are tending to become more and more subdivisions of the wider and all-embracing science of chemistry. It is to a chemist—Pasteur—that we owe the wonderful development of pathology within the last quarter of a century, and we may fairly regard his fellow countryman—Lavoisier—as the founder of this science. Men from all countries, and especially from Germany, have aided its development; but it seems fitting that at this congress, in acknowledging our obligations to this science, we should not omit to mention that at its head now stands a Russian—Mendeleef—whose marvellous prescience enabled him to predict the existence of elements which were then unknown, and even to describe their properties more correctly than those who first verified his predictions by obtaining the substances themselves. When we consider that little more than a hundred years have elapsed since the time of Lavoisier, and contemplate the vast benefits which medicine and its allied sciences have derived from chemistry during this time, our hopes cannot be otherwise than great for the centuries to come.

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Eczema Caused by Iodoform

In the *Therap. Monats.* (No. 5, 1897) a case is reported of a woman who gets an acute universal eczema every time she is in a room where iodoform or iodoform gauze is employed. M.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Joseph P. Winston, M.D., George E. West, M.D.,
W. J. Robinson, M.D., L. Schöney, M.D.

A New Symptom of Cancer

G. Bogdan (*Brit. Med. Jour.*) relates the case of a woman, aged 48, who suffered from cancer of the stomach. The disease had gone through a long period of latency. The patient presented on each cheek a patch of wine-red discoloration formed by the dilatation of the superficial venules; the stain showed out sharply against the pale yellow of the surrounding skin. On the strength of this symptom alone Bogdan was able to make a diagnosis of probable cancer at a time when there was yet no other manifest sign of that affection. He looks upon such superficial varicosities on the cheeks as a valuable help to the only recognition of certain cancers; he has seen it in about two-thirds of the cases of cancer which have come under his observation; it is particularly frequent in cases of epithelioma of the stomach and uterus, but less common in malignant disease of other organs.

Auto-intoxications

Dr. L. Weber (*The Post-Grad.*, Vol. XII, No. 7, 1897) defines auto-intoxication as a poisoning of the system by the products of its tissue-metamorphosis; they may be normal products, and do harm by excessive accumulation, or be abnormal, pathological, viz.: either not at all, or in minute particles only present in the healthy body. He distinguishes the following varieties:

1. Auto-intoxications by the various disorders of the gastro-intestinal tract, acute and chronic, functional or organic.

2. Auto-intoxications by retention of physiological products and by over-production of physiological and pathological products of the system: Cyanosis, uremia, eclampsia, ammoniemia, acetonuria, coma diabeticum.

3. Auto-intoxications by general anomalies of tissue-metamorphosis, and without apparent local disease: Uric-acid diathesis, gout-oxaluria, diabetes. Those are disorders in which intermediary products of assimilation and products of regressive metamorphosis are taken up into the circulation.

4. Auto-intoxications through great diminution or entire cessation of organic function. These are caused by disease of certain glands, with or without anatomical change, most frequently simple atrophy of the glandular structure. Myxedema by atrophy of the thyroid; cachexia strumipriva, after removal of the thyroid; pancreatic diabetes; acute yellow atrophy of the liver; Addison's disease by tubercular or other destructive disease of the suprarenal capsule. The glands ceasing to functionate, these constitutional disorders are brought about by retention and accumulation of the poisons constantly produced in the system by tissue-metamorphosis.

In myxedema we recognize an auto-intoxication of the system in consequence of the absence of the normal thyroid juices. On supplying the patient with thyroid extract we practice specific therapeutics—not homeopathically, by any means—because we do not supply the substances which appear to produce the disease, but those of which the disordered system stands in need.

In cases of auto-intoxication by retention or over-production of noxious products, the indications are to prevent the production of poisonous material, or at least its absorption, to destroy poisons within the organism by stimulating hepatic action, for instance, and to help eliminating poisons through the skin, lungs, kidneys, intestines. The physician who knows how and when to order emetics, purgatives, diaphoretics, and diuretics will be most helpful in managing his patients' disorders, be they constitutional or arising from functional deficiencies of the gastro-intestinal tract and the great glands within the abdominal cavity. O.

Treatment of Gastric Ulcer

According to Dr. Leube (*Aerz. Prak.*, Vol. X, No. 10, p. 311, 1897) surgical treatment is indicated:

1. Absolutely, in small hemorrhages which cannot be checked; relatively, in profuse hemorrhage, if not limited to a single time.

2. Regular vomiting and vehement pain, with loss of strength, form a relative indication for an operation if symptoms do not yield to medical treatment.

3. Absolute indication in abscesses; relative, in perigastritis, if the pains do not subside after two or three attempts at treating medically.

4. Perforation in the free abdominal cavity forms an absolute indication. A prophylactic operation is not advisable on account of the uncertainty in the diagnosis.

Taken as a whole gastric ulcer belongs to the domain of internal medicine. The medical treatment adopted by Dr. Leube consists in the following procedures: The patient is kept in bed, perfectly quiet for ten days, during which time poultices are applied. Infection through burns resulting from the hot applications, is prevented by cleansing the skin with bichloride solution and covering it with boracic ointment. The poultices are changed every ten minutes. In five days the pain usually ceases, otherwise, the poultices are kept up. After discontinuing the poultices "cold compresses" are regularly applied for three weeks. After rising from bed on the tenth day, the patient must rest after each meal. Every pressure upon the stomach must be avoided. The diet consists of milk, in small quantities, best administered by the rectum. Luke-warm Carlsbader water, ¼ of a pint once a day. No drugs are used. O.

Sea-sickness Treated with Chlorobrom

Dr. M. Charteris, Professor of Materia Medica and Therapeutics at the University of Glasgow, has used chlorobrom in the treatment of sea-sickness, and publishes his result in the *Lancet* for April 24.

Chlorobrom, says the author, in many cases cures, and in all cases alleviates, sea-sickness.

Six ship-surgeons previously prone to sea-sickness, who during the last six months had, by following Dr. C.'s directions, sailed to Calcutta and back without suffering the least inconvenience, report as follows:

(*a*) Dr. Dunlop writes on Jan. 13, 1897: "I am an indifferent sailor, and the prospect of a voyage to India in the capacity of a surgeon was marred by the thought that I would suffer from *mal de mer*. By following the directions given to me as to a cholagogue, dietary, and dosage of chlorobrom, I suffered no ill effects from the voyage." (*b*) Dr. McLure, on Jan. 23, 1897, reported as follows: "Ordinarily a poor sailor, by acting on your directions I was enabled to reach Calcutta without the slightest feeling of nausea, and although on the homeward voyage we had a very rough passage across the Bay of Biscay, I was equally free from any feeling akin to nausea or sickness." (*c*) Dr. McNaught, on Sept, 25, 1896, wrote *inter alia:* "In my own case I had an opportunity of trying chlorobrom as a prophylactic remedy, and I feel sure it was the means on several occasions of warding off unpleasant attacks of seasickness." The others testify in a similar manner. (*d*) Dr. Allan gives the following account of a case of prophylactic treatment: "A lady who had always suffered from sickness when the surface of the water was troubled, was treated as follows: Before sailing she took, according to my advice, a smart calomel purge; on retiring in her cabin in the evening she had one drachm of chlorobrom; next morning a light breakfast and then another drachm of chlorobrom. At noon—the steamer beginning to roll—she had three drachms, and I asked her to lie down for an hour or two; she did this. She at no time felt sick, and in the course of the afternoon she expressed her astonishment and gratitude at such unaccustomed immunity."

The following examples of curative treatment are cited:

Case 1—A man was very sick one hour after putting to sea. He had just partaken of breakfast. After the stomach was cleared he had a glass of soda-water. Five minutes afterwards he took twenty-five minims of spiritus chloroformi. The stomach being now soothed, he had two drachms of chlorobrom, and one drachm every half-hour for three doses. About noon he fell asleep, and awoke at 4 P. M. He had one drachm of chlorobrom, and also three grains of calomel. He felt thoroughly well, and at 6 P. M. he sat down to dinner and enjoyed a hearty meal. The same course was pursued later when he sickened in the monsoon, and a similar happy result was obtained.

Case 2—A man who had been previously free from any symptom of sickness, complained of depression and what I called mental pain and nausea. After taking a dose of calomel he lay down, and half an hour afterwards he was given half an ounce of chlorobrom. Toward night he felt better. At 8 P. M. and at 9 P. M. he took one drachm, and at 10 P. M. two drachms of chlorobrom. Next morning he was up early and, as he expressed it "as lively as a cricket." For the next three nights he had one drachm of chlorobrom.. At no time had he any return of the symptoms. B.

Ischochymia

Dr. M. Einhorn (*Med. Rec.*, Vol. 51, No. 25, 1897) concludes:

1. In the vast majority of prolonged disturbances in the transportation of chyme from the stomach into the intestines, a narrowing of the pylorus exists.

2. The earliest, and at the same time most important, sign of pyloric stenosis is ischochymia, the dilatation of the stomach which is met with, and which is often so considerable, does not develop until later, and besides may in exceptional cases occur in the presence of an adequate prochoresis.

3. Ischochymia produced by a malignant neoplasm at the pylorus always demands an operation (gastro-enterostomy, eventually pylorectomy).

4. In cases of ischochymia dependent upon a commencing benignant pyloric stenosis (or ulcer in the vicinity of this ori-

fice), or a relaxation of the muscular coat of the stomach, an effort should first be made to afford relief by palliative measures; if this is not successful, then a pyloroplastic operation or gastro-enterostomy should be performed.

5. Ischochymia due to a benign markedly developed narrowing of the pylorus (in these cases the pylorus can usually be felt as a small tumor) demands early resort to an operation (pyloroplastic procedures, if the stricture is not too small, and if the adhesions are not too numerous, otherwise gastro-enterostomy). O.

A Study of Thirty-one Cases of Chlorosis

Appended are the main points regarding the subject, as summed up by Simon (*Am. Jour. Med. Sci.*, Vol. 113, No. 4):

1. An anatomical basis of chlorosis has not been satisfactorily determined.
2. A perversion of the appetite—excessive consumption of starches and sugars—is a common symptom of chlorosis.
3. Its development is due to an insufficient consumption of animal proteids.
4. It is far more common than is generally supposed, occurring in both sexes and at all ages.
5. The diagnosis should be based altogether upon an examination of the blood.
6. "Simple anemia" should be substituted for the word chlorosis.
7. Iron is not a specific in the treatment of chlorosis.
8. Attention should be primarily directed to the diet.
9. In cases where iron fails, satisfactory results may be obtained, without medication, from a suitable diet, in which animal proteids, bone-marrow and dark beer are the principal factors.
10. The beneficial effects of bone-marrow are not due to the amount of iron which it contains. L.

Brief Notes on the Etiology of Infective Endocarditis.

Dr. A. A. Kanthack and Dr. H. M. Tickell (*Edinburgh Med. Jour.*, Vol. XLIX, No. 505) formulate these conclusions, viz.:

1. In every case of acute endocarditis, with vegetations, cultivations should be made (a) with the heart's blood; (b) from the vegetations; (c) from the spleen; (d) from any secondary or metastatic focus. This ought to be a matter of routine and not one of showy enthusiasm. Careful sections should be made and stained for micro-organisms.
2. We use the term "infective" designedly, because it is more correct than "malignant" or "ulcerative." The question must always be whether the vegetations are due to bacteria or not. Micro-organisms may cause acute endocarditis without ulcerations being present, and ulcerations may be found although bacteria are absent.
3. The infective endocarditis in some cases may be merely a terminal infection, the micro-organisms invading the tissues just before death, without being actually responsible for the literal ending. In other cases, the bacteria attack the endocardium some time before death and produce a fatal inflammation.
4. Bronchiectasis, empyema, vaginal or uterine affections, and also influenza, must be regarded as pyogenetic sources of infection. Among infective processes we find nine cases of pyococcus-infection and seven of pneumococcus-infection.
5. When an endocarditis appears in the course of an infective fever, we may have 1) homologous or (2) heterologous or (3) mixed infection of the endocardium. V.

Some Ill Effects of the Corset

Dr. Eugene L. Crutchfield (*Gaillard's Med. Jour.*, Vol. LXVII, No. 1) concludes as follows:

1. Phthisis pulmonalis, due to faulty methods of respiration. In the female sex the corset, by preventing the expansion of the lower lobes of the lungs, throws additional work on the apices (the most frequent location of the tubercular process), and subjects them to increased strain. As a consequence, the apices become tired, worn out and exhausted. They are therefore unable to cope with the Bacillus tuberculosis, which thus gains the victory and implants a disease that will eventually cause the death of the devotee of fashion.
2. Palpitation of the heart.
3. Certain hepatic disorders are produced by means of stays. Indentations of the ribs upon liver can be distinctly seen on examination after death.
4. The relation of tight lacing to the development of gall-stones is rendered clear by noticing the situation of the gall-bladder in the liver deformed by tight lacing.
5. Cancer of the liver.
6. Constipation, due to small amount of bile-flow into the duodenum caused by compression of the liver and gall-bladder by corsets.
7. Floating kidney.
8. Uterine displacements, narrowing the waist, the corset presses downward the abdominal organs, which in turn bear upon the uterus and produce prolapsus of anterior and posterior versions and flexions.
9. Dilatation of the stomach, due in the

first place to a mechanical obstacle to passage of the contents of the stomach into the intestines. Among the mechanical means producing obstruction he mentions the pressure upon the duodenum of a wandering right kidney. It is readily seen how the pressure exerted by the corset could displace an organ so loosely attached as the kidney. V.

Some Overlooked Points in Liver-troubles

Dr. Jacob Michaux (*Gaillard's Med. Jour.*, Vol. LXVII, No. 1) gives a summary as follows:

1. The occurrence of jaundice is, as a rule, only possible when there is an obstruction of the common bile-duct—when the secreted bile is reabsorbed.

2. There are one or two exceptions, viz.: A rare form of blood-dyscrasia and yellow fever. Thus it appears that jaundice is the result of the absorption of bile, while biliousness is the muddy, dirty discoloration resulting from the non-elimination of the elements which constitute the bile.

3. Biliousness is the result of functional derangement of the liver, while jaundice is the result of obstruction of the common duct (from any of several causes, such as tumor, catarrh, parasite, or gall-stones). In the latter condition the liver is in the normal condition, but bile is prevented from flowing into the intestines.

4. In the treatment of jaundice, it would be wrong to stimulate the liver, for the reason that the organ is not at fault, for the increase in the secretion would tend to distend the tubes and increase pain and pressure. Give belladonna in full doses to dilate the tubes by its action on the unstriped muscular fibers, and bicarbonate of soda to render the bile more fluid, thus facilitating its outflow; the salines to deplete and relieve pressure.

5. In biliousness we stimulate the functions of the liver. For this we use ipecac and euonymus. These in combination with calomel are best. V.

Suggestions on the Treatment of Rheumatism and Gouty Cases

Dr. H. A. Richy (*Intern. Jour. of Surg.*, Vol. X, No. 7) affords some wise suggestions concerning the treatment of rheumatism and gout, viz.:

1. I have been in the habit of prescribing colchisol regularly to my rheumatic and gouty patients, with success.

2. The treatment is simple, one capsule every hour or two will produce the desired effect; the doses can be given at longer intervals as soon as the disease allows it.

3. In many cases I was in the habit of using iodide of potassium conjointly with other medicines. The peculiar disagreeable effects of this drug on some people induced me to try the iodide of strontium.

4. Strontium is a metal often found to contain impurities which are liable to give rise to toxic properties. After using strontium salts pretty extensively, I have confined myself to prescribing only the Paraf-Javal brands.

5. Strontium is said to have a beneficial action on nutrition, and its salts, bromide, iodide, nitrate, and lactate, act somewhat in a corresponding salts of potassium, with the advantage that large doses are not liable to give rise to objectionable symptoms one occasionally meets when using the salts of potassium. V.

Daily Variations in the Properties of the Saliva

The saliva was tested by Dr. Ludwig Hofbauer (*Arch. f. d. ges. Phys.*, LXV; ref. *Schmidt's Jahrb.*, Bd. 254, 1897, p. 118) at different times of the day as to its diastasic action. The following variations were noted:

The saliva collected before breakfast is stronger in action than that collected after this time, but the activity soon rises again until the dinner-hour. The diastasic activity undergoes a decided decline during the mid-day meal, and this continues for one or two hours. Then the activity again rises, but not to its former height, until the evening meal again brings a reduction.

The saliva secreted after rising shows the strongest clouding (formed elements). After breakfast it is clear, becomes more and more cloudy up to the dinner hour. Then it again becomes clear, and after a few hours begins to cloud.

The mucin-content is always increased immediately after meals.

Influence of Salt Solutions upon the Rapidity of Glycogen-transformation into Sugar

Since it has been shown by practical experience that the excretion of sugar in diabetes is reduced by the administration of alkalies, Dr. Emil Gans (*Verhandl. d. XIV. Cong. f. inn. Med.*, p. 449; ref. *Schmidt's Jahrb.*, Bd. 254, p. 115) sought to determine whether a slowing of the glycogen-formation is caused by alkalies, thus giving the body time to further oxydize the sugar already formed.

The experiments were made with diastase. The author's suppositions were found to be correct for sodium carbonate. The latter salt slows the rapidity of transformation of glycogen, i. e., protects the body against a deluge with sugar.

PEDIATRICS

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Scarlatinal Rash Limited to the Face

Jourl. de Cliniq. et de Thérap. infant. (No. VI, p. 3, 1897) credits N. G. H. Lemoine (Val-de-Grâce) with the following observations: The patients came to the hospital from a district where scarlatina was prevailing. They were taken sick the night before entering with angina and fever; the angina being of the kind found in scarlatina and the fever being always high, 103° to 105.5° F. The face is red and puffy, and the appearance is like that of simple angina. It is only after some days that the diagnosis is established. The redness persists after the temperature falls the next or subsequent day. But even the rash may be light and transient, as when it is general. After a few days, however, scaly or furfuraceous desquamation sets in and extends over the whole surface affected.

In the epidemic of 1895, out of 200 scarlatinal cases 32 presented this limited eruption. Of these 23 presented no trace of desquamation elsewhere than on the face. The objection that a simple angina may be accompanied by an infectious erythema, is met by the statement that these cases usually come at the time of an epidemic of scarlatina. To meet the objection for other periods without epidemic, the author withheld his facts for a whole year and observed that, during 1896, of 93 cases of simple angina admitted, whether phlegmonous or pseudomembranous, only 6 presented an erythema of the face, and of these 4 came from regiments which had furnished sporadic cases of scarlatina. Yet the author admits having seen cases of angina with simple facial erythema in the absence of scarlatina.

H.

Tubercular Arthritis and Osteitis in Young Children

It is generally believed that tubercular arthritis is very uncommon in the first months of infancy. Dr. Rovsing (*Arch. f. klin. Chir.*, LIII, 3; ref. in *Med. Week*) has, however, had under his care at Copenhagen seven children, whose ages ranged from 6 weeks to 13 months, and in whom he noted ten cases of acute suppurating arthritis, the tubercular nature of which was undoubted.

In all the cases the disease showed itself in children who had been up to that time in perfect health, and whose parents were not tuberculous. The onset was sudden, with more or less marked fever, rapid swelling and acute sensitiveness of the affected joint. The diagnosis was generally that of suppurating osteomyelitis. The joints implicated were the following: twice the scapulo-humeral, five times the knee, once the hip, once the foot, once the sterno-clavicular articulation. The clinical syndrome was, as stated, quite different from that of ordinary articular tuberculosis, resembling rather a gonorrheal joint-affection. Dr. Rovsing calls special attention to the fact that none of these children had suffered from vulvar, buccal, or conjunctival gonorrhea. Gonorrheal arthritis is furthermore an affection which is generally limited to the first few weeks after birth.

The tubercular nature of the affection was demonstrated in one case by the positive result obtained after inoculation of the pus into a guinea-pig. In three more cases Koch's bacillus could be detected in the pus with the microscope. In another case, the bacillus was discovered in an osseous nodule, and in the last two cases in secondary abscesses which formed in the soft parts. In all seven children, therefore, there can be no doubt as to the tubercular nature of the arthritis.

The treatment consisted of simple arthrotomy. The synovial membrane always presented a tubercular appearance. The cure was perfect in every case, with rapid disappearance of the suppuration and complete restoration of the functions of the joints.

Dr. Rovsing believes that this form of tubercular arthritis, which has been hitherto ignored by all writers on infantile tubercular arthritis, is perhaps identical with that which von Volkmann described in young children under the name of "catarrhal arthritis."

Dr. Rovsing takes the opportunity of discussing the importance, in view of the prognosis, of suppuration in the course of tuberculosis. The majority of surgeons believe that suppurative forms of tuberculosis imply a graver prognosis than the fungous forms, and show greater virulence of the bacillus. Dr. Rovsing, on the contrary, judges from the foregoing cases that suppuration is the result of a more rapid destruction of the micro-organisms, brought on by the special power of resistance to Koch's bacillus which the infantile organism possesses.

B.

Two new formaldehyd preparations have been introduced by Dr. Rosenberg (*Pharm. Ztg.*, XLII, p. 381), under the names of "Steriform Chloride" and "Steriform Iodide." The former is said to consist of formaldehyd 5 per cent., ammonium chloride 10 per cent., pepsin 20 per cent., and milk-sugar 65 per cent. Steriform iodide is said to be of similar composition, but ammonium iodide is substituted for the chloride. F.

NEUROLOGY AND PSYCHIATRY

Henry Lyle Winter, M.D., Smith Ely Jelliffe, M.D.

Simulated Psychoses with Reference to Diagnosis

Dr. H. C. Eyman (*Clev. Med. Gaz.*, May) submits the following résumé on the above subject:

1. If insane, there must be some particular form or type.

2. Simulators almost always exaggerate. In connection with this it may be said that one may have a thorough knowledge of insanity in the abstract, and really know very little about the insane. That is, it requires actual contact with insane people to appreciate their peculiarities, and by such contact one learns almost instinctively to differentiate the real from the assumed.

3. Detection of feigned insanity in the criminal will always be difficult, because in those cases badness and madness are so intermingled that one hardly knows which it is that regulates their conduct. We constantly hear that this man is a degenerate, that this one is irresponsible, and in fact the author believes the most advanced penologists of to-day take the position that no criminal is fully responsible. Undoubtedly there are hundreds who can hardly be said to be sane and responsible, but who are constantly committing crimes, perhaps of no great magnitude, but which render their residence outside of a prison hazardous in the extreme. Some of their crimes are so motiveless, so silly, so violent, or so outrageous, that we are tempted to call them moral imbeciles. Each of these must be judged by himself.

4. In dealing with this class, it is well to remember that the laws of our land are not made to protect the criminal, but to protect the people from the effects of crime.

5. We, as physicians and lawyers, should look through the lunatic to see the man, rather than through the man to see the lunatic. L.

Traumatic Hysteria

Dr. Augustus A. Eshner (*Medicine*, Vol. III, No. 7) formulates the above topic as follows, viz.:

1. The development of distinct groups of symptoms as a result of traumatism in general, suddenly and violently inflicted, and of railway injuries in particular, is now an established and accepted fact.

2. Concerning the intimate nature of hysteria we can yet but theorize. To designate the disorder as a neurosis, adds nothing to our knowledge, and to burden this designation with such qualifications as functional, or reflex, or idiopathic, or traumatic, in no wise tends to classify our notions upon the subject of the pathology.

3. Death rarely takes place as a result of hysteria, and in fatal cases no destructive lesion or residuum of a former lesion has been found.

Aberration of function, however, bespeaks alteration in nutrition, and it is to influences of this kind that we must direct our scrutiny in the endeavor to explain the pathology of hysteria.

4. In hysteria we have to deal essentially with a defect in the nervous co-ordination for which an adequate cause can be conceived to reside in the metabolic alterations in the ultimate nervous elements resulting from modifications in cellular nutrition.

5. Such a conception is not in conflict with the alluring theory of the motility of the neuron so ably advocated by Dercum and others, as it is probable that the metabolic processes taking place in all the tissues are attended with cellular movement.

6. This view can be made to account for the diversity, the variability, the transient character of hysterical symptoms, their wide and irregular distribution, and at times their identity with and mimicry of those of organic disease, as well as possibility of perfect recovery.

7. In it is also to be found the rationale of our treatment of hysteria, whose aim is ever the restoration of a condition of nutritional equilibrium. It carries with it finally a suggestion bearing upon the heredity of hysteria and other so-called neuroses. It is not improbable that every cell is endowed with its non-metabolic peculiarities, which it transmits in turn to its offspring throughout all time. V.

Hysteria in the Male

A. Vogt (*Norsk Mag. f. Laegevidensk*, No. 1, 1897; ref. in *Brit. Med. Jour.*) reports the case of a workingman, aged 42, suddenly attacked by paralysis of the left side of the body, which later extended to the whole of that side. There was no sign of syphilis. The condition lasted for four months without much change. There were polyuria, anesthesia of the left side and paresis of both upper and lower limbs. The left testicle was hyperesthetic and there were hyperesthetic spots on the left side of the back. There was diminution of hearing and sight on the left side; on the right there was nothing abnormal. Purely suggestive treatment without any drugs effected a complete cure. B.

SURGERY

William B. Coley, M.D., Jarvis S. Wight, Jr., M.D., David M. Stabler, M.D.

Fulminating Appendicitis

Dr. Howard Crutcher, in *The Intern. Jour. of Surg.*, No. I, p. 1, states that by the term fulminating appendicitis, he means that condition where a more or less gangrenous vermiform process ruptures and permits infectious elements to escape into an unprotected peritoneal cavity.

Some classify all cases of perforation as fulminating; others use the term in connection with the rupture of protective adhesions, allowing the escape of infectious matter; and another class denominate the case as fulminating when the onset is violent and sudden, regardless of the pathological lesion in the appendix. Dr. Crutcher makes these statements:

Pain, if violent, sudden and persistent, indicates probable seriousness of the attack, but indicates nothing as to the natural defenses for limiting infection. On the contrary, absence of pain is undecisive between gangrene and resolution.

While a rapid pulse and high temperature favor the destructive process, their absence is no assurance of recovery. Referring to this, Tyson remarks that too much stress cannot be laid upon the fact that there may be gangrenous appendicitis in the presence of normal temperature.

The presence of shock, if undoubted, is a very grave symptom, generally indicating perforation. On the contrary, the most deadly attacks often occur without it.

Sensitiveness, if persistent and highly developed, generally indicates destructive inflammation, but gives no clue concerning the limitations of infection.

The expression is of no material value before the development of grave conditions.

Perforation can no more be foretold than the perforation of typhoid or the rupture of an aneurism. C.

Gastro-enterostomy

In a paper read before the Second Pan-American Medical Congress, at the City of Mexico, Dr. E. B. Smith (*The Charlotte Med. Jour.*, February, 1897) stated that gastro- enterostomy was first performed by Dr. Anton Wolfler, in Vienna, Nov. 12, 1881, and shortly afterward by Bilroth. Since then it has been practiced almost universally by all modern surgeons. It was discovered accidentally, or more properly speaking, devised without a moment's forethought in the case of a man whose abdomen was opened for the removal of a cancer of the pylorus. It was found impossible to remove the cancer, so the operation was devised. An incision was made into the stomach near the middle of the great curvature, and a similar cut into a coil of the small intestine. The margins of these two incisions were then sewed together, leaving a free opening between the cavity of the stomach and the lumen of the gut. The patient made a rapid recovery, the wound healing by first intention.

The operation is demanded in affections of the pyloric end of the stomach or upper end of the small intestine. As an operation of necessity there is properly only one condition requiring the procedure, and that is, partial or complete stenosis at the outlet of the stomach; but other conditions will be greatly relieved by surgical interference: where pylorectomy is not feasible; where glandular infiltration has become extensive; where extensive adhesions exist between the pyloric and adjacent organs. In malignant diseases death takes place from extension due to the mechanical obstruction and not to the disease.

An indication of this treatment of pyloric ulcers occurs when the passage of food over a denuded surface is a source of irritation, or when there are perforations at the upper end of the small intestines from ulcers or gunshot-wounds. The establishment of a short route for the food will keep it from the pylorus, and so fulfill the first indications in the treatment of this trouble; it will give the diseased part rest and an opportunity to heal. When there is stenosis, the greater it is the stronger the indications for the opening up of a new passage. Cicatricial stenosis and stenosis from foreign bodies or tumors may be present.

Persistent vomiting is often, or always an accompaniment of pyloric, duodenal, hepatic, pancreatic or peritoneal tumors, hour-glass contraction and dilatation of the stomach.

Another suspicious symptom is persistent constipation, though this is more often an indication of some trouble situated in the lower part of the alimentary tract.

He advises hypodermatic injections of strychnine to be given several days before the operation. A few hours before the operation it is advisable to wash out the stomach with a warm neutral saline solution, the precaution being taken that nothing is eaten afterward.

The incision is made in the median line, this location having all the advantages of an incision along the linea alba in a laparotomy. No muscular tissue is incised, and from the opening the intestines can be reached.

When the enlarged pylorus is found, it should be followed down until the jejunum is reached, which is pulled out of the cavity about six inches. It is emptied by gentle pressure from above downward. The opening then can be made, first in the intestines and second in the stomach.

Clamps are not advised, but the hands of an assistant are used to control the hemorrhage, to prevent escape of the contents, and to bring the parts in opposition.

The sutures should not be placed too close together, but well down into the submucosa, and not drawn too tightly. If the parts are not impervious, then apply omentum splints.

At present the Murphy button is widely used. The writer has adopted a modification of Murphy's method. The button is in two sections, in the medium size the weight of one section is three drams, and the weight of the other is two drams and thirteen grains. As Murphy designed it, the heavy end is in the stomach and the lighter end in the intestine. Dr. Smith would advocate the reverse of this, hoping thereby to gain some additional impetus for its dislodgment and passage down the alimentary tract.

After the operation, while the patient is recovering from the anesthetic, a pint of strong hot coffee, per rectum, will materially aid in combatting the effects of the shock. Forty hours after the operation, some champagne may be given by the mouth, and a few hours later followed by some whey, buttermilk and veal-broth. After this, the diet may be gradually increased. B.

The Toxic Effects of Iodoform Dressings

M. McLean (*Amer. Gyn. and Obstr. Jour.*, March) classes the toxic effects of iodoform into three groups:

1. Cutaneous irritation—eruptions of the skin in erythematous, or eczematous form associated with the pruritus of urticaria.

2. Cerebral disturbance—headache often very marked; delirium more or less active; melancholia, hallucinations; the pupils occasionally dilated, but more often contracted and motionless; the pulse decidedly accelerated, running early up to 135 to 150 per minute; quality rather small and wiry; rapid increase of temperature.

3. Syncopal or asthenic form of poisoning—patient overcome with dizziness, mental confusion, great lethargy; weak, rapid pulse; some paralysis of the sphincters, death coming sometimes suddenly by heart-failure.

A peculiarity of the drug also is its rapid absorption and its slow elimination, and careful conclusions should be drawn as to the significance of certain symptoms occurring in operative cases where iodoform plays a prominent part. The author also refers to the fact that although the antiseptic power of iodoform has been discredited by some because of its failure to arrest the culture and growth of certain pathogenic germs in laboratory experiments, surgical experience has taught us that, beyond doubt, it has the power to destroy the septic influences of the germs as they develop in the living animal tissues and to discourage the suppurative processes in wounds. L.

The Treatment of Ulcers by Powell's Method

Dr. Robert A. Sands (*Post-Grad.*, May, 1897), in analyzing the foregoing, finds that it is based upon the following assumptions:

1. An ulcer is primarily a pressure-sore. This pressure may come from within, for example, edema due to defective circulation, or from without, as, for instance, too tight a shoe, a badly applied bandage, old dermal scabs, etc. Hence we should always aim at removing the pressure.

2. Convert the unhealthy ulcer into a healthy one.

3. Once this is attained, avoid irritating it, and allow healing to take place through the natural recuperative powers of the tissues.

This last statement raises the question as to the efficacy of the various powders, ointments, and other means which are in vogue at the present day. Suffice it to say, that none of these means is employed, and that the reason which led to their abandonment was that of actual experiment. The author relates the history of several cases, purposely selected, because they present different types of ulcer, yet, at the same time, they are representative of what one is constantly called upon to treat. The treatment has reference to the application of narrow strips of diachylon-plaster over the ulcer, and for a distance of about one-quarter of an inch beyond the edges, leaving slits or holes for drainage.

Immediately before applying the plaster it is passed thoroughly through the flame of an alcohol-lamp, not merely for the purpose of making it more adhesive, but with the idea of sterilizing it. Over the plaster is placed a piece of sterilized gauze and a roller bandage. Unhealthy ulcers are converted into healthy ones by first cleaning them; the removal of all dead tissue as far as possible by scraping or by the scissors; the application of pure carbolic acid to the entire surface of the ulcer, for the purpose of removing any sloughy tissue which the scraping and scissors failed to remove, and of disinfecting the ulcer as far as possible; and finally, a sterilized-gauze dressing wet with a 2-per-cent. solution of carbolic acid, and kept wet by the patient until fresh granulations begin to appear. Once this is attained, the ulcer is treated with diachylon-plaster, etc., held in place by a roller-bandage. L.

Parallel Between Tracheotomy and Intubation in Croup

Dr. Sevestes (*Gaillard's Med. Jour.*, May) offers an interesting study as to the foregoing. The author also enters into an historical research regarding *tubage de la glotte* or intubation, referring to the fact also that, when first introduced by Bouchut, in 1858, intubation was violently attacked by Trousseau, the apostle of tracheotomy, who had succeeded, not without trouble, in establishing the latter in the treatment of croup. The two modes of intervention are compared with one another, based particularly upon the examination of cases seen within the last two years in the service pertaining to diphtheria, in the Hôpital des Enfants Malades. The paper is not based upon comparative results furnished by statistics, but upon the comparative examination of each operation itself, and of the accidents that may arise in the course of or supervene within the few days following. Tracheotomy constitutes an operation that is often very difficult, and at the very least one that is extremely rough and futile in unexpected incidents. It may be complicated by hemorrhage, syncope, an attack of asphyxia, or even of complete apnea. The most skillful, the most experienced operator is never absolutely certain of bringing things to a successful issue. For intubation, it is no longer altogether the same thing; assuredly, there is likewise involved a delicate operation, demanding great precision; but if one has been careful to educate the hand by some preparatory exercises, if one proceeds with gentleness and with prudence, there is but very little danger of grave accidents. False passages through the larynx and hemorrhages are extremely rare, and can only result from rough and awkward maneuvers. The acts of vomiting provoked by the contact of the tube do not require one to stop. As to attacks of syncope, such may be produced during the introduction of the tube as well as in tracheotomy, but are imputable to the state of the child at the moment of the operation much more than the intubation itself. On the contrary, the increase of the dyspnea during the intubation or in the following moment results generally from obstruction of the tube of a false membrane pushed back or detached, which can be ordinarily avoided by withdrawing the tube at once, the child usually rejecting in a paroxysm of coughing the false membrane causing the obstruction. If such be not the case, one would be free to perform tracheotomy, rarely required. Upon the whole, the operation of introducing the tube is more easy to perform than tracheotomy, and is much less exposed to accidents of a serious character or impossible to foresee. However, whatever may be the superiority of intubation in principle over tracheotomy, there is one dark spot that cannot be insisted upon too strongly—that the child should be the object of an altogether special surveillance, in that deglutition may be difficult and certain measures must be adopted in order to facilitate it, or that the tube may be rejected or found to have become obstructed. After tracheotomy the child may be abandoned to the care of the mother or of a nurse of little intelligence, there being seldom more to do than to clean the internal cannula if it becomes obstructed, the prescriptions relative to alimentation, aeration, etc., being easy of execution.

Finally, the author arrives at this general conclusion: Intubation is, without possible dispute, the method of choice in operative intervention of croup; but it should not be practiced unless the patient can remain under the direct and immediate surveillance of a physician accustomed to the operation. Outside of these conditions, it is to tracheotomy that it is necessary to have recourse. L.

Two Cases of Irreducible Femoral Hernia with the Vermiform Appendix in the Sac

L. Bidwell, at the meeting of the Clinical Society of London (*Med. Week*, May 28), called attention to two cases of the foregoing. The first, a woman, 50 years of age, came with an irreducible femoral hernia on the right side, which was first noticed seven years previously, and had descended at intervals ever since. It had been down a fortnight, but there were no signs of strangulation. Upon opening it the sac was found distended with clear fluid; in the crural arch was the appendix, 1½ inches of which were lying free in the hernial sac. Being healthy, the appendix was returned into the abdomen, the sac dissected up and ligated. The second case, a woman 60 years old, had a lump in the groin of five weeks' standing, no symptoms of strangulation existing. Here, too, the sac was distended with fluid, an inch of the appendix lying free in the sac; being healthy, it also was returned to the abdominal cavity, and the sac ligated. L.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N. Hoople, M.D.,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Unilateral Acute Peripheric Amblyopia

In considering the above subject, Cramer (*Zehender's klin. Monats.*, XXXIV., p. 122, *Archiv. of Ophth.*) says he found acute peripheric amblyopia in a man of 65, who complained of cloudiness of vision and of seeing phosphorescent images. The concentrically contracted visual field showed an absolute defect outward of 15-25°, within which was a relative defect of about 10°. The patient recovered under the use of foot-baths and iodide of potassium. As Masselon stated in 1872 there is frequently in toxic amblyopia not only a central but also a peripheric scotoma, which is usually located in the upper field. B.

New Treatment for Deafness

Dr. Laborde (*La Vie Scientifique*) has succeeded in making an apparatus for facilitating the treatment devised by Dr. Gellé for giving auditory exercises. The exercises were for awakening first auditory sensations by repeating sounds, vowels, syllables, words, and phrases, with an intensity that lessens as the hearing improves—a tiresome process difficult to have performed. Dr. Laborde devised an apparatus to move automatically by means of clock-work that would reproduce the voice with an intensity subject to regulation. It is the "Microphonographe Dussaud," comprising: (1) The repeating microphonograph and (2) the registering microphonograph.

The first consists of a horizontal cylinder run by clock-work, on which wax is spread for receiving the registration. An apparatus placed in front of the cylinder bears a membrane with a rounded style, to which is attached a little special microphone with micrometric vise, springs and levers. An electric current is passed into the special microphone and into a receiver like that of a telephone. When the receiver is brought to the ear, the words or sounds repeated by the phonograph are heard with an intensity which can be regulated at will by increasing the number of cells. By increasing the force of the current the sounds can be made so intense as not to be endured without violent pain. It is at this point that M. Dussaud gives the receiver to the deaf of all kinds and degrees. He can make even deaf-mutes keep time to music and distinguish vowels and words. Dr. Gellé claims that many ears need only education to give them hearing. Each cylinder can repeat 10,000 times what it contains without any alteration. Re-engraved, this can be repeated forty times: thus each word can be repeated 400,000 times, and there are fifty words on a cylinder. A sixty-cell current is at first needed for the worst cases. At the end of a few months one cell will complete the process where a cure is being effected. The number of cells used makes the instrument an audimeter, which measures the degree of deafness.

The second is also a horizontal cylinder moved by clock-work and covered with wax. Before it is placed a piece the shape and size of a watch, composed essentially of electromagnets, which act on a membrane commanding the style for engraving the wax. To register weak sounds a microphone of a particular system, connected with the microphonograph register by an electric current from sixty weak cells, is placed in the place corresponding to the organ to be examined. Through the current the sounds gathered by the microphone are faithfully repeated by the membrane of the microphonograph and inscribed in the wax by the style.

Dr. George Jaubert, preparatory teacher on chemistry in l'École Polytechnique, has thus been able to register the pulsations of the heart, and to fix the variations in rhythm and intensity of its beats in walking and running, also the crises due to the emotions in artists.

The physician through it will be able to reproduce pathological sounds and compare them with later ones in the progress of the disease, and have them repeated as often as necessary to obtain their full value. H.

Colored Spectacles

Pergens (*Klin. Monatsbl. f. Augen.*, Feb., 1897; ref. in *Brit. Med. Jour.*) finds that smoked or neutral glasses allow red rays to pass through more easily than other rays, and for that reason they are not to be recommended as protecting glasses, the red rays causing most irritation of the retina. For the same reason, ordinary blue glasses are also faulty; whereas a combination of a dark blue-green glass, with number six blue glasses, excludes red, and is to be recommended. In measuring smoked and blue glasses he takes as unity the weakest glass which at one meter does not transmit the light of a Hefner amyl-acetate candle. Contrasting glass and rock-crystal, he remarks that glass absorbs much more of the ultra-violet rays, and is therefore to be preferred for cataract-glasses. B.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M.D., HOMER E. FRASER, M.D.

Treatment of Syphilis

M. Gallois (*L'Union Pharm.*, XXXVIII, p. 16) states that, as is well known, the injection of insoluble mercurial salts is certainly very efficacious, but they are painful and at times cause serious results; soluble salts possessing the same activity are therefore to be preferred, and in consequence he uses the mercury benzoate in the form as recommended by M. Stonkovenkow:

Neutral Mercury Benzoate....	0.25 gme.
Sodium Chloride.....	0.06 gme.
Cocain Hydrochlorate..	0.06 gme.
Distilled Water, Sterilized....	30.00 gme.

This solution is perfectly clear, but at times deposits a few crystals. It keeps for a long time. The author injects 1 gme. of this solution daily for a month.

It should preferably be injected deeply into the muscular tissue of the gluteal region; it causes no pain, and only a certain degree of dull sensibility is felt after an hour. Redness is scarcely observable, and no abscesses, stomatitis, albuminuria, nor diarrhea have ever been observed to follow its use. F.

A Peculiar Affection of the Hair-follicle

Dr. Joseph Grindon (in the *Jour. of Cut. and Gen.-Ur. Dis.*, June, 1897) relates the history of a peculiar disease affecting the hair-follicles. Female, aged 15, brunette, general health good. Just within the hairy margin of the ears is a small, red, slightly scaly and itching patch. Many of the hairs growing from these patches present along their length grayish-white concretions closely simulating the ova of the pediculi. Under a low power they are found to be from three to five times the diameter of the hair-shaft, which they inclose like a sheath. They are not soluble in ether, but shrink and become opaque. The hair of the affected patch is easily extracted. Here and there the follicles are dilated and filled with a comedo-like plug. Epilation and a resorcin ointment, 1 to 15, quickly cured the disease.

Three years later she again consulted the doctor for the same trouble; the patches were slightly larger this time. The doctor made a careful examination of the hair. A number of the masses were treated with potassa solution and examined. They consisted of an inner and outer layer. The inner layer showed a few polygonal nucleated cells. Most conspicuous, however, were the non-nucleated fusiform cells of the outer layer. Outside was a mass of amorphous detritus containing oil-globules and granules.

Some specimens treated with a simple stain showed a few elements of a streptococcus-chain, probably accidental, no other organism being present.

Dr. Grindon concludes that the disease was an inflammation of the hair-follicles, characterized by extrusion of the cells of a portion of the root-sheath en masse, which remain threaded over the hair, and are carried up with its growth, the process being repeated from time to time until successive masses, bearing a superficial resemblance to nits, are strung along the hair. It is accompanied by a slight redness about the follicular orifice; is chronic in character, and results in curable alopecia.

He suggests a suitable name for this condition to be ecbolic folliculitis. S.

A Case of Hereditary and Continuous Shedding of the Finger-nails

In the *Jour. of Cut. and Gen.-Ur. Dis.*, June, 1897, Dr. Douglas W. Montgomery describes the following interesting case.

The patient was a gardener, who had been troubled since birth with constant shedding of the finger-nails. He was a native of France, a large, well-formed man, 35 years of age. He said that his mother's nails fell like his own. He had two maternal uncles who also shed their nails. He was not aware whether his maternal aunts were affected in the same way or not. He had no knowledge of his maternal grandparents His father's nails were bad, but did not shed. Nearly all of his paternal ancestors had had bad nails, rough and chalky, but none of them fell off. The patient has one brother whose nails were normal. When 13 years of age he had an attack of small-pox.

October, 1895, he contracted syphilis, which had, apparently, no effect on the shedding of his nails.

The affected nail grows a dull, yellow white, directly over the lunula, then begins to lift away from the nail-bed from behind forward until it falls off. The process is slow, taking over three months to be completed. After the nail has dropped the new one grows, in from three to eight months, and is perfectly normal.

Examinations for determining the cause of this condition were negative, the patient had no psoriasis, eczema, nor any other exfoliative skin-disease. There was no sweating nor congestion of the hands, and no symptoms of Basedow's disease. There were no polyuria and glycosuria. S.

OBSTETRICS AND GYNECOLOGY

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. DeForest, M.D., H. T. Hotchkiss, M.D.

The Prevention and Treatment of Post-partum Hemorrhage

T. More Madden (Cleveland *Med. Gaz.*, May, 1897), in an extensive obstetric experience in various climates, in private and hospital practice, has met only three instances of fatal hemorrhage after delivery, each resulting from circumstances which might properly be excluded from consideration of these observations, viz., inversion, rupture of the uterus, and secondary hemorrhage consequent upon malignant smallpox. Aside from these exceptional cases, the author believes post-partum hemorrhage a preventable accident. Referring to the various possible causes of post-partum hemorrhage, the most frequent being inertia, or insufficient or irregular contraction of the uterus, the statement is made that never has he seen the pulse permanently quickened during labor (not subsiding to its normal rate in the interval between the pains and immediately after delivery) in any case in which this was not followed by post-partum hemorrhage, unless obviated by proper prophylactic treatment. For the purpose of preventing the probability of subsequent flooding, more especially in multiparæ, rupture of the membranes at as early a period as possible of labor is advised if hemorrhage be threatening, and in all cases during the second stage the uterus should be well supported by the accoucheur's hand, placed above the fundus, and the descending uterine tumor thus followed down during the expulsion of the child. Nor should his grasp and control over it in this way be relaxed until the completion of the third stage, and subsequent firm and lasting contraction of the uterus has been secured. Moreover, this is rendered more certain by administering ergot as soon as the os is fully dilated, there being, of course, no other obstacle to delivery than want of expulsive force. If, notwithstanding all these precautionary measures, hemorrhage should occur, and assuming that the placenta and membrane may have been completely expelled, a solution of alum, as hot as can be borne by one's own hand, should be thrown into the uterine cavity until all clots and debris are cleared away and the water returns clear and the uterus contracts firmly. Should that not soon be the case, the hand should be at once introduced gently and carefully into the uterine cavity, counter-pressure being made at the same time from without by the other hand, the grasp of which over the fundus should never be relaxed until that firm and permanent contraction which is essential for the safety of the patient has been effectually secured.

In like manner, if called to a case, the symptoms of collapse shortly after delivery pointing to the occurrence of internal or concealed hemorrhage, the clot should be pressed out, and the hand, if necessary, introduced and retained in utero until its secure contraction is obtained. Incidentally, plugging of the uterus with iodoform gauze, or the employment of transfusion (intravenous or rectal saline injections preferable. —Editor) may be found necessary and valuable. L.

The Abuse of Topical Applications to the Endometrium

Samuel L. Weber (*Am. Gyn. and Obstr. Jour.*, May) considers this subject in a paper read at the March meeting of the Chicago Gynecological Society:

While it is true that the much more frequent practice of criminal abortion of late years accounts for some of the increase in the number of cases of disease of the uterine annexa, yet how many of these cases are the direct result of intra-uterine medication. Attempt at classification of the various forms of uterine infection is very unsatisfactory and indefinite, the author considering all forms of endometritis as septic; that is, the lesion or lesions present are caused by or in some cases maintained and intensified by bacteria. In all these inflammatory affections of the endometrium, the whole uterus is more or less involved. A consideration of the medicaments used for topical application brings forth the following more prominent ones: chloride of zinc, carbolic acid, iodine, iodized phenol, nitrate of silver, bichloride of mercury, persulphate of iron, tannin, and iodoform. These medicaments are currently divided as caustics, antiseptics, astringents, and alteratives. Considering that all forms of endometritis are bacterial diseases, and bearing in mind the histological structure of the endometrium, and the consequent thickness of tissue invaded by the bacteria, it is inconceivable how any action can be expected of these drugs except an antiseptic one. The position of the author is fortified by declaring that a remedy in an infectious disease must do one of two things: it must either destroy the causative micro-organisms, or it must sustain or strengthen the resistant power of the tissues. In that the remedies used as intra-uterine applications are strong, irritant, and caustic chemicals, these cannot and do not assist the defensive powers of the uterus. We must consider these not only as antiseptics, doing good as such, but also as irritants, doing harm to the tissues; that is, lowering their vitality and hence their resistant power. Acute septic endometritis, in competent hands, is not treated by topical applications, and need not concern us. In gonorrheal endometritis, however, injury is added only to injury, lowering more and more the resistant powers of the tissue in the toils of the gonococci and their toxins. It is no wonder therefore that a rapid extension of the disease takes place so frequently in gonorrheal endometritis treated by topical applications. The manipulation in making topical applications introduces also almost invariably other bacteria, producing a mixed infection, the applications being scarcely ever made in a perfectly aseptic manner. In chronic, septic endometritis, topical applications can do but little good, none of the medicaments penetrating deeply enough to destroy the bacteria. Only in chronic catarrhal endometritis can topical applications be serviceable, and only then of temporary benefit; in fact, harm may be done in these cases also by irritating the already diseased endometrium, and so intensifying the degree of inflammation. An immense amount of wasted effort is being expended in treating these cases by topical applications, and a corresponding amount of disappointment falls to the physician and the patient. The distant or predisposing causes must first be treated, and if possible cured. After that is accomplished then the local condition can be treated. Finally, it behooves a physician to cure his gynecological patients as rapidly as possible, all tedious plans of treatment of pelvic diseases jeopardizing the mental balance of the patient, just as chronic pelvic diseases themselves do. The harm that is always done is that we are wasting time, the woman continuing to suffer. In the curette and repair of the cervix, if that be indicated, a rapid method of terminating the trouble is at hand. L.

Extra-uterine Pregnancy

Dr. Frankenthal summarizes his experience in *The Amer. Gynec. and Obstet. Jour.* as follows: 1. Impregnation occurs in the tube. 2. In the majority of cases the cause of extra-uterine pregnancy will be found in a mechanical hindrance to the passing of the impregnated ovum from the tube to the uterine cavity. 3. Operate early. 4. Treat conservatively only those cases seen some time after rupture, in which you feel certain of the death of the fetus, in which the alarming symptoms have subsided, and in which presumably absorption is going on. 5. The operation during shock is not contraindicated, for frequently the removal of the foreign body from the peritoneal cavity stops the shock. 6. Drainnage, preferably vaginal, should be done in all cases. 7. To relieve shock, transfuse salt solution, if amount of blood lost is not too great; otherwise direct transfusion of blood should be resorted to. 8. To hasten some operations, merely clamp the adnexa and leave clamps in situ. 9. Whenever possible, remove the placenta; if not, tampon and drain. 10. In deciding when to operate after viability, do not consider the child at all, for such children are short-lived and deficient in development. M.

Vaginal Incision and Drainage of Suppurating Hematoceles Due to Ectopic Gestation

Two cases are cited by Noble (*Amer. Gyn. and Obstr. Jour.*, March), the first occurring in a V.-para, giving a distinct history of ectopic pregnancy with rupture, preceded by a long-continued pelvic peritonitis; patient quite feeble, having also lost about fifty pounds in weight. Upon examination it was discovered that a sinus was present behind the cervix, through which the femoral bone of a fetus was removed. The sinus was dilated subsequently, the vaginal wall incised and a pelvic abscess in front of and to the left of the rectum washed out. Most of the fetus and clots had been discharged before the operation. Patient made an uninterrupted recovery. The second case gave a history of bleeding indefinitely for two months subsequent to her last menstruation; one month previous to the author's seeing her, she was seized with a violent pain and fainting, subsequently developing a temperature of 104°, which persisted for four weeks, with a corresponding pulse-rate of 110 to 130. Upon examination, a large mass was found enclosed in the pelvis behind the uterus and to the left. A semi-lunar incision was made through the vagina, a pair of sharp scissors pushed into the mass and the opening enlarged by spreading the scissors in withdrawing them. The pus and broken-down blood-clot were washed out and the cavity packed with gauze for drainage. No fetus was seen. The temperature after the operation became normal and continued so, recovery being rapid. The author suggests that this plan of treatment is better than a radical operation, obliteration of the vessels having time to occur, and the danger of hemorrhage being slight. A further advantage is that in many cases the fertility of the patient will be conserved. L.

BACTERIOLOGY AND PATHOLOGY

Smith Ely Jelliffe, M.D., Joseph P. Winston, M.D.
Herman B Sheffield, M.D., L. Schöney, M.D.

Practical Observations Upon the Bacteriology and Treatment of Catarrhal Ophthalmia

Dr. Sydney Stephenson (*The Lancet*, No. XXIII, of Vol. 1, 1897) sums up some practcal observations of catarrhal ophthalmia as follows:

1. The bacilli are to be found at some stage in every case of catarrhal conjunctivitis, and constitute the only diagnostic of that disease.

2. Their numbers stand in direct relationship to the severity of the symptoms.

3. They are with difficulty grown upon artificial media, and are readily killed by antiseptics, drying or perhaps by mere lapse of time. A clinical distinction is often drawn between a muco-purulent (or yellowish-white) and a purulent (or yellow) discharge from the conjunctiva. This difference possesses some practical importance from a diagnostic standpoint. It is, however, mainly quantitative, and depends upon the relative proportion of migrated leucocytes. The characters of the exudation must obviously be the resultant of two factors: (a) the strength of the excitant, whether mechanical, chemical or septic; and (b) the reaction of the conjunctiva to that stimulant. While it is broadly true that catarrhal ophthalmia is associated with a yellowish-white and the purulent disease with a yellow discharge, yet exceptions to this general rule are by no means uncommon.[1] This element of confusion probably accounts for the views of some writers who appear to think that the contagious ophthalmiæ form a series of closely related and interchangeable disorders, ranging from the muco-purulent to the purulent type. As a matter of fact, the diagnosis of every case should be based not upon the naked-eye characters of the secretion, but upon the organisms contained in that fluid. Thus, if gonococci be present we are dealing with a specific purulent ophthalmia, whereas if the bacilli described above be found we have to do with a specific muco-purulent, or catarrhal, ophthalmia. In other words, these affections of the conjunctiva are of a specific nature, and no more tend to pass into one another than scarlet fever tends to merge into German measles, or typhoid fever into diphtheria. Indeed, the time has come when the old designations might be replaced by others more in keeping with the present state of knowledge. We might now fitly speak of conjunctival inflammations as due to gonococci, to trachoma cocci, to Weeks' bacilli, to streptococci, to Klebs-Löffler bacilli, or to the pneumococci—to name some of the forms only that can be identified with more or less approach to certainty.

The experience of some hundreds of cases has convinced the author that nitrate of silver is the sovereign remedy for catarrhal ophthalmia. Under its influence redness and discharge subside, edema of the lids is reduced, and the patient's discomfort is speedily abated. The acute symptoms seldom withstand more than three or four applications. Whenever the diagnosis is assured the sooner silver is resorted to the better. In the mildest forms of disease only can we afford to dispense with it; the severer the type the more fearlessly may it be applied. The 2-per-cent. solution in general use can harly be improved upon. It is far more efficient than the 0.5- or the 1-per-cent. liquid, and causes no more discomfort. It should be brushed over the everted conjunctiva, which has been first carefuly freed from secretion. So far as possible its action should be limited to the mucous lining of the lids by attention to the following points: First, the brush should be barely moistened with the lotion; secondly, any surplus silver should be soaked up from the conjunctiva by a swab of absorbent wool damped with a weak bichlorid solution. Silver is not contraindicated by corneal complications; it should not be applied to raw or bleeding spots, as it will cause pain and formation of cicatrices.

The following observations appear to throw some light upon the modus operandi of lunar caustic. A cover-glass preparation from a case of acute catarrhal ophthalmia, will be found to contain pathogenic bacilli and polynucleated leucocytes along with epithelial cells. If preparations be made from such a case four, eight, thirteen, sixteen, twenty, and twenty-four hours after a 2-per-cent. solution of nitrate of silver has been brushed over the conjunctiva. Organisms, although plentiful before the application, will be almost or altogether absent from specimens obtained during the next twelve hours: but there will be a notable increase in the number of epithelial cells and febrin ferments. Even sixteen hours afterward the bacilli are few and far between and stain imperfectly. As a rule, however, after a lapse of twenty hours there will be no great difficulty in finding them in most parts of the preparation. If the case be now left without treatment they soon multiply, so that within twenty-four hours after silver was used almost as many will be present as in the original specimen.

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[1] The *Lancet*, Jan. 25, 1896, p. 231.

It has been already stated that there is considerable difficulty in growing the organism of catarrhal ophthalmia, but the difficulty becomes an impossibility if tubes be inoculated at any time within twenty hours after the employment of the silver. From these facts we conclude that this agent acts by direct destruction of microbes. The microbes are always confined to the surface layers of the conjunctiva.

Silver should be continued until (a) swelling and redness of the palpebral conjunctiva have subsided, and (b) yellowish-white discharge has yielded to a scanty morning secretion containing no bacilli. From five to fifteen brushings are generally needed to attain these ends. As a wash for general use nothing succeeds better than

Mercury Bichloride	⅛ gr.
Ammonium Chloride	1 gr.
Water	1 oz.

The ammonium chloride increases the solubility of the mercuric salt and prevents the formation of an albuminate when the lotion comes in contact with the conjunctiva. This collyrium, previously warmed, may be used from three to eight times a day, and in order that the discharge may be thoroughly removed the mucous membrane should be freely exposed by everting the eyelids. It is always well in catarrhal ophthalmia to prevent adhesion of the lids by means of a little lanolin or other simple ointment introduced into the eye at bedtime.

The treatment of every case should be commenced by administration of a brisk purge, after which daily evacuation of the bowels should be secured by one or other methods in general use. The eyes should be shaded from light, reading and close work interdicted, the life temperate, and much time spent in open air. In conclusion, the author earnestly insists upon the inadvisability of allowing patients with catarrhal ophthalmia to be associated in the same wards with those affected with the purulent disease or with trachoma. V.

How Is Malaria Communicated?

Laveran, the foremost authority upon the quesion of malaria, takes up the subject of its contagion in the *Revue d'Hygiène*, XVIII, 12, and after reviewing the more important literature upon the general subject, comes to the following conclusions:

He believes it hardly possible that infection should take place by means of the air. With reference to water, a large number of observations would tend to show that it was the most likely source, yet these do not point positively enough, according to the writer. Laveran believes that the mosquito is probably the most likely carrier of the infection. He calls to mind that the general anti-malarial measures are such that tend also to get rid of the mosquitoes. Also that fresh infection is common when the mosquitoes are in abundance. Night is especially favorable. Children on account of their tender skins are particularly susceptible, while negroes, with their thick skins, are relatively immune.

Laveran points out many analogous facts referring to contagion being carried by insects such as tuberculosis and cholera by flies, recurrent fever by wasps (wanzan), Texas fever by the ixodes, filaria by mosquitoes, and the nagana disease of South Africa, which is spread by means of the tsetse-fly.

He reviews further the literature referable to the artificial communication of the disease, and shows that all attempts to inoculate animals with malaria have failed. He holds it possible that the mother can infect the fetus, but that an infection through the milk is probably not possible.

Bacillus Coli Communis as a Cause of Disease in Animals

While the typhoid bacillus is seldom found in animals other than men, the author, Rabe, in the *Berlin. Thierärztl. Woch.*, 1896, No. 10, collects a number of cases of disease caused by its ally, coli communis, in animals. These were infectious diarrhea of calves, diarrhea of other house animals, purulent peritonitis, cystitis of dogs, cystitis with pyelonephritis of dogs and pigs, purulent mastitis in cows, and ulcerative endocarditis and purulent endometritis in dogs. He has also found it in pneumonia of dogs and in septic vaginitis in cows. J.

On Immunity Against Tuberculosis by Means of Tubercle Toxins

From the time when Koch announced the discovery of his tubercle toxin to the present time all observers, so states Maksutow (*Centralb. f. Bact.*, XXI, 1897, p. 317), have made use of the toxin produced from artificial cultures. This the author states is probably only artificial toxin and may be, probably is, quite different from the toxin produced in the normal environment of the organism. He therefore tried to isolate a toxin from the tubercular organs of infected guinea-pigs. In this he was successful, and using this as a means of immunizing has obtained what seem to him to be positive results. "The experiments; are, however, still quite fragmentary." J.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D.,
DAVID M. STÄHLER, M.D.

Bararol

Bararol is a clear, reddish-brown, oily fluid of aromatic tarry odor (*Pharm. Era*); its aqueous solution has an alkaline reaction. It is recommended as a disinfectant in 5-per-cent. aqueous solution.

Triphenylalbumin

Triphenylalbumin is a new preparation made by heating dry egg-albumin with ten times its quantity of phenol on a water-bath for several hours until dissolved, and then adding alcohol. It precipitates as a flocculent body, that is then washed with alcohol and finally with water. Thus obtained, it is an odorless, tasteless substance, insoluble in hot alcohol, water, or potassa solution, but soluble in phenol. It is prone to ferment, just like ordinary albumin, and, according to Shimada (*Pharm. Post*, XXX, p. 293), can serve as an excellent nutrient for bacteriological work.

Sulphoboric Acid

A new acid has been prepared by Dr. Gatschkowski (*Bull. Com.*, XXV, p. 283), possessing, it is claimed, special properties that destine it for a wide range of purposes. It may, for instance, advantageously replace sulphuric acid, because its use is not dangerous. It has all the properties of sulphuric acid, but its action is slower. It may be used in electric piles and accumulators for making nitric acid, etc. It is said to be made as follows: 150 gme. of sulphuric acid are poured, as slowly as possible, and with constant stirring, on 150 gme. of pure boric acid. The paste thus formed is left at rest for two or three days, when it becomes as hard as stone. It is then broken up, crushed, and triturated, with the slow and continuous addition of 450 gme. of sulphuric acid, when a milky liquid is obtained, which is then heated until it becomes clear. It is then ready for use.

Hepatic Opotherapy in Diabetes

Drs. A. Gilbert and P. Carnot (*Med. Week*, V, p. 301) have been carrying out experiments in hepatic opotherapy in the treatment of diabetes. The hepatic preparation was given by them preferably per rectum, and was made by crushing 100 to 150 gme. (3½ to 5 ozs.) of fresh hog's liver in a meat-pulper, allowing it to macerate for two hours in from 200 to 250 gme. of water at a temperature of from 35° to 38° C., then straining through several layers of muslin, and thoroughly squeezing out all the liquid portion. The whole of this, they state, may be injected at body-temperature into the rectum, and is generally well borne; if not, it may be injected in smaller but repeated quantities. The raw liver may also be given per os, 100 gme. (3½ oz.) of it being rasped or crushed into a pulp, and stirred into a bowl of warm broth; the taste is not at all unpleasant.

The cases of diabetes that appeared to derive most benefit from the treatment were those of a more specially hepatic character, the liver being enlarged, cirrhotic, etc. In fact, the writers are inclined to say that the opotherapic treatment is the touchstone of concomitant hepatic lesions in cases of diabetes.

A history of twelve cases is given in which it is found that in three of them there was first a diminution of sugar, but the diminution was ephemeral and not permanent; in five cases the improvement was partial only, but lasting; in the four remaining cases the glycosuria passed away entirely, for some time at any rate. A number of experiments were also made with the liver-extract; and this was shown to possess the power of moderating the excretion of glucose, and on the whole, of effecting a variable amount of stimulation of the hepatic functions. The antitoxic function of the liver is but slightly affected by it; the glycogenic function is the one more particularly affected. The uropoietic function is influenced to an equal degree; and the biliary function is affected, but to a smaller extent.

Oxycamphor

Brief mention was made of oxycamphor in Vol. XI, p. 165, of the BULLETIN. Further reports regarding it are now at hand, however (*Therap. Beilage der Deutsch. med. Woch.*, XXIII, p. 41). Oxycamphor is a white crystalline powder, melting between 203° to 205° C. It is soluble to the extent of 2 per cent. in cold water, and more so in hot. It is easily soluble in all organic solvents with the exception of ligroin, from which it crystallizes in feathery aggregations. It gradually volatilizes when heated on a water-bath, being easily carried over by steam, but is not volatile in the cold. Two-per-cent. aqueous solutions have a faint peppery, bitter odor and taste.. Pure oxycamphor must have no camphoraceous odor, and no oily globules must be observable on the surfaces of its aqueous solution (such would indicate the presence of boreol, that may be removed, however, by ltering the solution and heating it for a hort time). The solution is neutral, and xcites no sensation when brought into conact with mucous surfaces; the conjunctiva nly is temporarily reddened by a 2-per-cent. olution; but the size of the pupil remains naffected.

Physiological tests carried out with oxyamphor prove it to possess a remarkable power to reduce the excitability of the respiratory centers, just like morphine, but it is free from the by-effects caused by the latter. The remedy has hence been employed in dyspnea, by Drs R. Heins and O. Manasse, of München, in doses of 1 gme. (15 grn.), repeated once or twice, if necessary. Where one dose was sufficient, it was usually given at night. The remedy had no ill effect whatever on any organ, even when given in large doses for a long time.

Mayol

Mayol is a new preservative introduced by Ed. May, of Budapest (*Pharm. Centralh.*, XXXVIII, p. 506). According to Prof. K. Than, it is a mixture of ethyl and methyl alcohols with boric acid, glycerin, and ammonium fluoride. Meat treated with the solution becomes coated with a crust several millimeters in thickness, beneath which it is said to remain fresh for weeks.

Mastitis

In order to prevent the formation of mammary abscess, Dr. Edward Spiedel writes, in the *Louisville Med. Monthly*, that he makes use of persistent massage, a tight binder, and antiphlogistics, ichthyol, and saline laxatives. The following forms one of the most effective and convenient methods of applying ichthyol:

The solution should be painted on with a camel's-hair pencil.

Ichthyol	āā 2 dr.
Ether Sulphuric	
Collodion Flexile	4 dr.

M. ft. sol.

Suprarenal Extract in Ophthalmology

Experiments carried out by Dr. Königstein (*Med. Week*, V, p. 311), show that the extract of suprarenal capsules determines, even when the spinal chord is destroyed, an increase in the blood-pressure. On the other hand, when this extract is dropped onto the conjunctiva, it soon results in marked anemia of this membrane. Within from twenty to thirty seconds after the instillation into the conjunctival cul-de-sac of a 10-per-cent. solution of suprarenal extract, the palpebral fissure was smaller and the conjunctiva became pale; the sensibility of the latter, as well as that of the cornea, remains unaffected. As a result of repeated injections, the pupil dilates without any change in its reflex excitability. Experiments on diseased eyes show that, in inflammatory affections of the eye, the instillation of suprarenal extract determines a considerable degree of anemia. The effect is superficial and limited to the conjunctival vessels. The retina remains normal, even when large doses of the substance are employed. It appears, moreover, that the suprarenal extract does not pass into the anterior chamber.

The exsanguinating action of this substance manifests itself also in respect of the nasal mucous membrane. It appears to be due to contraction of the capillaries.

Dr. Biedl also states that he has found that suprarenal extract possesses hemostatic properties, which are not affected either by putrefaction or boiling. This extract acts on the muscular coat of the vessels and on the peripheral glands. When an animal is chloroformed until respiration ceases, the latter is re-established by the injection of suprarenal extract into the veins.

Tannalbin Clinically

Dr. J. Verclyette (*Recherches sur la Val. clin. de la Tannalb.*, 1897) gives a report covering the use of tannalbin in ten cases of diarrhea due to tuberculosis, eight cases of diarrhea due to climatic causes, in three cases due to deranged digestion, in one case due to lesions of the digestive tract, in one case diarrhea accompanying the development of a tumor, in four cases of diarrhea of nervous origin, and in one case of infantile diarrhea of reflex origin. Among the tubercular cases there were a few failures, but almost all those of climatic origin were cured in one or two days with doses varying from 2 to 4 gme. per day. It was found in certain cases that doses of 2 gme. were insufficient to obtain the desired effect, but that this was promptly obtained by increasing the dose to 4 gme. The cases of diarrhea due to digestive derangement, and two of which were acute, the other chronic, were rapidly cured by doses of 4 gme. of tannalbin given during two days. The diarrhea due to lesions of the annexa of the digestive tract, was cured in five days. In the diarrhea accompanying the development of a tumor, 2 gme. of tannalbin given daily for six days brought about a cure almost, but in order to hasten it, and make the cure more permanent, 4 gme. were given daily for two days, and the quantity then daily decreased. In the diarrhea of nervous origin, the tannalbin was without effect. The diarrhea of reflex origin occurring in a child of 23 months of age was relieved by 0.5 gme. of tannalbin given during eighteen hours, in doses of 0.15 and 0.20 gme., but a relapse took place upon ceasing to administer the remedy, and it was only after giving 0.9 gme. (14 grn.) during a period of thirty-six hours that the cure was complete. Two cases of diarrhea following the use of drugs were also treated, and with perfectly satisfactory results. In conclusion, the author sums up as follows: (1) Tannalbin, a combination of tannin and albumin, participates of the properties of tannins; (2) it possesses an advantage physiologically, of traversing the stomach without being attacked, and exerting its effects in the intestines only when it is decomposed into feebly peptonized albumin and tannin; (3) in theory, every diarrhea is clinically amenable to tannalbin, practically, however, the majority of cases of tuberculous origin of the last stage are refractory, as are those also of nervous origin; (4) tannalbin is easily administered, 2 gme. per day as a minimum. and 4 gme. daily as a minimum dose, are given in cachet for from one to eight days; (5) the prolonged employment of tannalbin has never provoked accidents nor disagreements.

Thyraden as an Anti-fat

Dr. W. Zinn (*Berl. klin. Woch.*, XXXIV, p. 577) reports having used thyraden (dried extract of thyroid gland) in obesity with good effect. The remedy was given in the form of tablets, each containing 0.15 gme. (2½ grn.) of thyraden, corresponding to 0.3 gme. (5 grn.) of the fresh thyroid gland, and of which from six to ten were given daily. The writer states that in one case the weight was decreased in five days to the extent of 1½ kilos (3.3 lbs.). Diuresis was somewhat increased, but no disagreeable by-effects were at any time observed. The results obtained were such as to prove that in obesity, thyraden tablets, in conjunction with a sufficiently mixed diet, may cause a reduction in the body-weight without the muscular tissue being in any way affected, but reducing the fat and favoring the elimination of water from the system.

Sozoiodole Salts in Affections of the Throat and Larynx

Dr. Marcinowski, of Siegmar, Saxony (*Arztl. Rund.*, VII, p. 455), states that he has used a mixture of menthol, sozoiodole zinc, and boric acid in chronic catarrhs of the nose, nasopharyngeal cavity, and pharynx. The more chronic the process, the greater the proportion of the sozoiodole salt, and the more acute, the greater that of the menthol. The remedy was indiscriminately employed, without attention to the character or quantity of the secretion, crust-formation, dry atrophy, etc., and the writer was astonished at the uniformly good results obtained in all cases. It was also tried in acute catarrh, in which it effected an alleviation by clearing the air-passages of the obstructive secretions. The application of the preparation was always made by insufflations into the nostrils backward, and also upon and into the pharynx through the mouth. The entire upper air-passages were invariably coated with the powder by insufflation, and some twenty-five to thirty cases have been cured by this means. Acute inflammations of the throat and larynx have also been treated with the powder with satisfactory results. This treatment was seconded by spraying a 1½ to 2-per-cent. sozoiodole-sodium solution into and upon the larynx, as well as into the throat and pharynx, first properly depressing the tongue.

Ozone-inhalations in Whooping-cough

It has been found by Doumer (*Brit. Med. Jour. Epit.*) that ozone-inhalations are very successful in cases of whooping-cough, both in children and adults. Broken rest was greatly improved, and in one case vomiting was speedily checked. The frequency of the paroxysms was diminished, though a relapse occurred upon discontinuing the remedy. A cure was effected after from twelve to twenty-seven inhalations.

Comparative Value of Antiseptics

Dr. Th. Bokorny (*Science*, No. CXXXVII, p. 250) gives the results of a study of the antiseptic action of various substances. A culture-medium of 0.5 per cent. egg-albumin or peptone, with 1-10 per cent. potassium phosphate, 2-10 per cent. magnesium sulphate, and a trace of calcium chloride, was infected with the bacteria of decay, and after addition of the substance to be tested, placed for several days in an incubator. Among inorganic compounds silver nitrate and mercuric chloride have about the same value, 0.002 per cent., killing all organisms in two days. The antiseptic limit with silver nitrate is 0.0002 per cent.; with mercuric chloride 0.001 to 0.0002 per cent. Copper sulphate is nearly as active, 0.005 per cent. killing all organisms in twenty-four hours, and 0.001 per cent. preventing decomposition. Zinc sulphate 0.01 per cent. kills infusoria in eighteen hours, but 0.1 per cent. is not completely antiseptic, while cadmium sulphate toward algæ and infusoria is weaker than the zinc salt, but toward bacteria stronger, 0.02 per cent. being antiseptic. Lead acetate and nitrate in 0.1-per-cent. solution only delay decay, while the latter is prevented by the same strength of iron-sulphate solution. The fluorides are not strong antiseptics, the limits being for hydrofluoric acid 0.02 per cent., barium fluoride 0.3 per cent., aluminum fluoride 0.1 per cent., calcium fluoride 0.03 per cent., ferric fluoride 0.06 per cent., and magnesium fluoride 0.05 per cent. Ammonium fluoride 0.1 per cent. is without action, but sodium fluoride 0.1 per cent. is antiseptic; potassium fluoride is rather more active.

Hygiama

Hygiama is a powder recalling cacao by its taste and appearance. It is said to be prepared (*L'Union Pharm.*, XXXVIII, p. 298) from condensed milk to which have been added partially defatted cacao and specially prepared cereals. Hygiama has been administered in cases where it was necessary to have recourse, for a prolonged period, to an exclusively liquid alimentation. In these it was found to be particularly useful, mixed with milk, or with a small quantity of powdered cacao. The remedy is also employed in gastric and intestinal affections, in phthisis, in the convalescence of febrile affections (typhoid fever, etc.), and in general debility in children. Investigations show that, while the nitrogen of hygiama is less completely utilized than that of milk, yet the ease of assimilation is sufficiently important to warrant the continuance of the observations in the nutritive value of the dietetic.

Mercuric Benzoate Hypodermically

Mercuric benzoate is soluble in solutions of chlorides or iodides. The following preparation is the one most employed by Garicher (in syphilis):

Mercuric Benzoate	4 grn.
Cocain Hydrochlorate	1 grn.
Sodium Chloride	1 grn.
Sterilized Water	1 fl. oz.

For hypodermic use. Inject 15 minims per day for one week, then 2 minims per day.

The cocain may be omitted without any unpleasant effects, it is claimed, as the pain of injection is not worth considering.

Bone-marrow in Purpura Hemorrhagica

Two years ago Dr. Th. K. Alexéiev (Feodosia) successfully treated a case of purpura hemorrhagica by the administration of bone-marrow. A Swiss practitioner, Dr. P. Jaunin (Chexbres), has more recently met with a case of the same affection in which manifest improvement was obtained by same treatment (*Med. Week*, V, p. 347).

This was a case of purpura, of infective origin very probably, with epistaxis, hematuria and melena, on which the ordinary hemostatic drugs had no effect. As a last resource, it occurred to Dr. Jaunin to give his patient an extract of the fresh bone-marrow of a calf, prepared by crushing in tepid water. The patient took daily two tablespoonfuls of the liquid, which was first filtered and then mixed with a little milk. He also took some decoction of cinchona bark. Under the influence of this treatment the hemorrhages ceased and the general condition of the patient improved. He unfortunately died shortly after from the effects of a pultaceous sore throat, which led to general infection of the organism by streptococci and staphylococci.

Ichthyol Internally in Gynecological Affections

According to Dr. M. D. Gunsbourg, of Kharkow (*La Sem. méd.*, XVI., p. 258) ichthyol, when administered internally is able to render valuable services in the treatment of various chronic affections of the female genital organs. He uses the ichthyol in the form of pills, made as follows:

Ichthyol	4 gme.
Extract and Powd. Licorice	q. s.

Make into 40 pills.

Dose: 2 pills thrice daily.

Under the influence of this medication Dr. G. has often seen dyspeptic troubles, constipation, abdominal pains and menorrhagias improve, or even disappear completely. In these cases the ichthyol will have replaced advantageously the more costly and complicated remedies usually used, such as massage, electricity and thermal or bath cures.

In order to avoid the disagreeable eructations produced by ichthyol it is advised that the pills be coated with keratin. F.

Cerium Salts as Antiseptics

The various compounds of cerium and nitric acid are recommended (*Quart. Therap Rev.*, XV, p. 35), for their active germicidal action, while they are non-poisonous toward higher organisms. The colorless cerium nitrate in a one-per-mille solution prevents all bacterial growth, although a much stronger solution has little or no action upon the wound-tissues. Cerium ammonio-nitrate forms red, easily decomposable crystals, that also prevent the growth of bacteria at 1:200. The nitrates of didynium, lanthanium, yttrium, erbium, thorium, and zirconium show a similar property. The chlorides and nitrates are easily soluble in water, the sulphates are more difficult to dissolve, this being especially the case with the double alkaline sulphates. The carbonates, phosphates, and oxalates are quite insoluble.

REVIEWS

Report of the Health Officer of the District of Columbia, 1896. Washington: Government Printing Office, 1896. 8vo. pp. 266; 6 maps.

For persons engaged in the study of the numerous problems constantly arising in municipal sanitation this report contains much of value.

Chief among the sections of general interest is the report of personal investigations of a number of plans for the disposal of garbage, and an excellent summary is given of the various methods employed in a number of cities. The reduction-process and the cremation-process are both described, and a comparison is made of their relative merits. In conclusion a series of photographs, plans and specifications illustrate the system ultimately adopted for the city of Washington.

Another addition to the literature of sanitary construction is the section devoted to the specifications of the work and materials used in the building of a new small-pox hospital for the District, and also of a steam-disinfecting plant; the practical working details of the latter are illustrated by a number of photogravures.

A large proportion of the work is occupied by tables of statistics, whose general lack of interest is redeemed by the use of diagrams and charts whenever possible, and by the addition of six large maps of the city upon which are shown by means of a series of arbitrary signs the total number of deaths in each block, and the location of the fatal cases of typhoid fever, malarial fevers, diphtheria, scarlet fever, diarrheal diseases, consumption, and acute lung-diseases. The use of two colors differentiates between the white and colored population. The general effect is excellent.

The health officer of the district, Dr. William C. Woodward, is certainly entitled to much credit for the thorough manner in which the departmental work has been performed, and for the systematic way in which the results have been tabulated.

Eating and Drinking: The Alkalinity of the Blood, the Test of Food and Drink in Health and Disease. By Albert Harris Hoy, M.D.. Chicago; A. C. McClurg & Co., 1896.

This little work of 222 pages is divided into six chapters. In the first, Air, Water, and Food, and the relation of vegetable to animal life are discussed at some length.

The tripod of life according to the author's argument is, air, water, and food.

In this book, contrary to the generally accepted opinions, the author tells us that water is not a food, but should be classed as a drink. If, on the other hand, we accept the common definition, that all substances that are essential in forming a part of the body, and are necessary for the further maintenance of animal life are to be classed as foods, then water is a food to a large extent. Water, alone and in combination, constitutes eighty per cent. of the animal organism. Therefore, we are inclined to consider the old classification rather more accurate from the chemico-physiological standpoint, which after all is the only one that is scientifically accurate.

The argument that oxygen should be classed as a food if water is so classified does not hold true. Oxygen cannot be so classified under the common definition, because it is not utilized in the anabolic construction of the body as is water. The oxygen acts only in the katabolic destruction of the food-elements in their passage through the body.

We are sorry to see an inclination in the author to drift away from chemistry and its laws, for the more closely Nature is studied the more firmly one becomes convinced of the accuracy of these laws. Because we are unable to completely interpret and see fully revealed the hand that guides them, is a poor excuse for disregarding them and their never-failing accuracy.

The second chapter is devoted to the digestion of food. Here we find largely a repetition of what is to be found in the standard text-books on physiology. Its last paragraph attracts our attention, where the author fails to note experiments lately made that tend to prove that the contents of the alimentary canal are quite as often acid as alkaline, and it may yet be shown that an acid condition of this tract is the normal and not the abnormal one. That the continuous inpouring of the alkaline secretions into the intestinal canal ultimately overcomes the acidity is proven by the almost uniform alkalinity of the feces, but this does not warrant the statement that "free acid has no place in intestinal digestion."

The balance of the book is devoted to eating and drinking and the results of eating and drinking on the alkalinity of the blood. While there is much of value in this little volume there is also much that should be accepted with great caution. (Reviewed by a member of the retired staff.—Ed.)

Rheumatism, and Its Treatment by the Use of the Percusso-punctator. By J. Brindley James, M.R.C.S., Eng., L.R.C.P.I., Associate of Kings College, London; Author of "Replies to Questions in Therapeutics," "Aids to Practical Physiology," etc., etc., etc. The Rebman Publishing Company, Ltd., 11 Adam street, Strand, London, 1897.

This is the second edition of a booklet of 37 pages which the author styles "My revised opusculum."

We sometimes feel oppressed by an author's array of titles, and yet are powerless to throw off the incubus; but the author of the work before us has so written as to relieve us of this weight. The transition from the sublime to the ridiculous is so quick and manifest that our amusement abundantly repays us for having undergone a momentary sense of awful presence. The mysterious etceteras following the list of this author's titles, his repeated statement that ten years ago he read a paper on this subject before the British Medical Association, his free use of Latin quotations, and his indulgence in French, together with an indescribable pomposity of verbiage, might at first glance deceive a reader into thinking that he was perusing a treatise by some learned man. But faulty spelling and a choice of words that would rival Mrs. Partington's, along with other defects grammatical and rhetorical, reveal such English as the average high-school pupil in the graduating class would blush to use.

For lucidity consider the following sentence: "Out of forty most satisfactory cases cured by this simple procedure, which I specially selected to further cull from thence typical examples for the paper which I read originally on this subject before the British Medical Association at its annual meeting (held at Cardiff that year), neuralgia of the fifth nerve, hemicrania, brow-ague, vertigo, lumbago, pleurodynia, and, stiff-neck, each severally figured; as also did miscellaneous pains of rheumatoid or of nervine character, either singly or combining both such characteristics." He speaks of "left upper limbs," "curative failure," "sanguinary apprehensions," and "morbid elucubrations." He commences another sentence thus: "At periods and in localities where men openly and heartily drink beer or wine *unadulterated* by mischievous modern chemical science." He also speaks of "injuries entailed on his (patient's) shoulder." So much for *form;* as to matter, when the book is searched for ideas, the poverty of thought is even more striking than the illiteracy of the language. Far from adulterating it with "mischievous modern science," he has left it destitute of the least trace of science. One is compelled to ask himself the question—Is the author really a member of the Royal College of Surgeons, and has he chosen this method of advertising his little bunch of needles under the ponderous title of Percusso-punctator? Honesty compels us to state that in the eight chapters we have not found one useful new thing. We must even deny the implied claim of priority for the use of acupuncture. But we are bound to accord the book the rare credit of being the best example we have ever seen, of how a book of this kind ought *not* to be written.

SPECIAL CORRESPONDENCE

Some Observations on Diagnosis and Treatment of Yellow Fever

To the Editor of the A. M.-S. Bulletin:

Thinking your numerous readers might be interested in the present yellow-fever epidemic extending throughout portions of Mississippi and Louisiana, I have decided to give you the benefit of our diagnosis and treatment in the Crescent City, coupled with some general remarks.

We had hoped, in New Orleans, since our efficient system of quarantine, to be entirely rid of yellow fever, that has previously proven so damaging, not only to the trade of our port, but destructive to the lives of our people, but fate is against us, and we have to deal with this serious disease which has been imported into our city, either through the quarantine station at Ship Island, or that of Mobile, Ala.

Our present death-rate is lower than in any previous epidemic of yellow fever. In 1878 in Alabama, Louisiana, and Mississippi we had 16,000 deaths, or a mortality of about 19 per cent.; in the present outbreak in the first twenty-five cases at Biloxi there has been only one death; out of the first thirty cases in New Orleans only two; if the present death-rate prevails throughout this visitation we will have to send around a subscription-list for our undertakers, nor shall we need the antitoxin which Prof. Sanarelli, of the Hygienic University of Uruguay, has promised to the profession.

Prof. Sanarelli says the reason former investigators in the field of yellow-fever bacteriology have failed to find this bacillus is on account of the small number and few colonies which exist in the blood of the patients. He says it was very difficult in some cases which he knew to be yellow fever to find it.

Dr. Sternberg thinks that Sanarelli's Bacillus icteroides is very similar to, or but another name for the Bacillus X which he discovered and experimented with some time ago in Havana. The Doctor thinks that this bacillus works its way from the alimentary canal into the tissues, while Sanarelli claims that it propagates in the blood and internal organs. The most marked difference between Bacillus X and Bacillus icteroides is the fact that the former is not devitalized after being exposed to an ice-and-salt mixture for two hours, whereas an ordinary frost is known to be destructive to the yellow-fever germ, also to Sanarelli's new "bug." Dr. Sternberg has made most valuable discoveries in his extensive investigations into yellow-fever etiology, and his opinion and endorsement of any new bacillus discovery would be considered valuable by the profession of the United States.

Yellow fever creates more panic than any other disease. It is so infectious and some of the epidemics have been so virulent in type, that a stampede is inevitable when the first cases are reported. Reasonable precautions are efficacious, but the ridiculousness of not permitting trains to run through a town, nor permitting boxes of meat and jugs of molasses and carbolic acid to be sent to persons who actually need groceries and disinfectants, is too absurd to mention. I knew of one case where a person would not receive a box of silver dollars.

Yellow fever may kill its thousands, typhoid fever and consumption kill their ten thousands, but as a panic-breeder the latter two are not to be considered in comparison.

With yellow fever, isolation, disinfection, and depopulation are the three cardinal points in suppressing an epidemic. If the doctors will do the disinfecting and isolate the few "can't-get-aways" the average citizen may be depended upon to do the depopulating. Ten cases were reported in Edwards, Mississippi; Jackson, twenty-seven miles away, was depopulated within forty-eight hours; the daily papers were suspended, and many who could not get conveyances walked out of town. Jackson is only mentioned as an example; many other communities are just as panicky when a yellow-fever rumor is started.

Equally absurd is it for Amite, La.; Atlanta, Ga.; Lookout Inn, Tenn., and many other places to claim that yellow fever cannot exist within their limits and to invite refugees from infected points promiscuously to come and abide with them. It is true that immunity increases with elevation above the sea, as the majority of cases occur below an altitude of 1000 feet. Exceptionally, however, the disease has been known to exist in elevated countries and mountain resorts, as in Cusco in the Peruvian Andes, something over 10000 feet above the level of the sea. Given humidity, warmth, yellow-fever germ, non-immune persons, a temperature of 80 to 90 degrees and you may develop yellow fever at almost any altitude. It will be surprising if some of the afore-mentioned cities, to which yellow-fever refugees have been invited, do not pay seriously for their generous hospitality. The lateness of the season and an early frost may save them from an epidemic this year.

Nor should Northern cities feel exempt, especially if an epidemic begins early in the season. In the early part of the century, as reported by Carey, Philadelphia had 4000 cases, of whom 3000 died in the months of September, October, and November. The disease has also prevailed in Boston and Baltimore; its home, however, according to Guiteras, is in the tropical climates, being always present at such points as Havana, Vera Cruz, and Rio. New Orleans he classes in the zone of accidental epidemics, i. e., where epidemics are invariably due to the importation of the poison either through infected freight or persons.

The late Prof. Bemiss, of New Orleans, in his lectures on yellow fever stated that infected areas extend by fomites being air-borne, but that these sometimes appear to be checked by streams of water, high rows of buildings or walls, and sometimes by thoroughfares. The poison is a ponderous substance and seems not to rise far above the ground, as persons living in the third or fourth stories of buildings are not as susceptible to the fever as those living in basements and upon ground floors. It also seems to be more virulent at night than during the day. Dr. Bemiss claims that this poison is not directly contagious, but that it infects the air and lodges upon the surface of clothing, where it develops, and upon damp places or refuse. Persons who have apparently contracted the disease through contagion have been proven to have been infected through fomites contained in the sick-room or aboard ship, or some infected locality, and not by direct communication from one person to another; therefore, if clothing, sewers, drains, and bedding are properly disinfected, we may escape an epidemic, as yellow fever is not spread by the living body.

The diagnosis of yellow fever at the beginning of an outbreak is exceedingly difficult. A mistake may cost a city millions of dollars in trade, and by exposing numerous non-immune persons, hundreds of lives and subsequent trouble. It therefore becomes exceedingly important that every well-posted doctor should be up on the diagnostic points as between malarial, hemorrhagic, dengue, and yellow fevers. The last is distributed by fomites; there is a sudden rise of temperature, frequently preceded by a chill; there are usually slow pulse with this high temperature, excessive pains in the forehead, in the joints and in the legs; a marked redness of the gums and eyes, and excessive gastric irritability, with diminished or albuminous urine. It is well to remember that all cases do not become jaundiced until after death. These are the symptoms of a well-marked case. It is exceedingly difficult to distinguish mild cases from severe dengue. This has been one of the hardest points with which the doctors of Alabama, Mississippi, and Louisiana have been wrestling for the past six weeks. There is no doubt that the two diseases coexisted at Ocean Springs, whence the entire epidemic seems to have started. Out of the first 600 cases at Ocean Springs there were only ten deaths, and those mostly confined to old persons or those debilitated either by disease or intemperate habits. No one, well posted in the mortality of yellow fever, would credit it with such a low death-rate, but yellow fever was afterward imported into the town, spreading from there to other points throughout Alabama, Mississippi, and Louisiana, and was made known to the public as soon as it could be distinguished from the dengue-fever, which already existed in the community.

For sanitary purposes in general epidemics the following extract from Dr. Bemiss' article in the New Orleans *Medical Journal* cannot be improved upon, and is introduced here for the benefit of doctors with suspicious cases.

Group First—A person after (a) a sudden attack has (b) a fever of one paroxysm, attended with (c) marked congestion or blood-stasis of capillaries of the surface, conjunctiva and gums, with (d) a history of probable exposure to infection and (e) no history of a previous attack of yellow fever.

Group Second—A person after (a) a sudden attack has (b) fever of one paroxysm, followed by (c) unusual prostration, (d) albuminous urine, (e) yellowness of conjunctiva or skin, and having (f) no positively authenticated history of a previous attack of yellow fever.

Group Third—A person has (a) a fever of one paroxysm, (b) albuminous urine, (c) black vomit, (d) suppression of urine, or (e) general hemorrhagic tendency, under (f) circumstances where exposure to infection is a possibility.

Suspicious cases of yellow fever:

For sanitary purposes the following symptoms associated with a fever of one paroxysm in a patient who has apparently been exposed to infection and has never had yellow fever shall be held to justify (if occurring between May 1 and November 1) in either of the six following cases a suspicion of this disease, viz.:

First—Suddenness of attack, either with violent pain in back and head, injected eyes and face, or with marked congestion of the superficial capillaries.

Second—Want of that correlation between pulse and temperature usual to other forms of fever.

Third—Albuminous urine.

Fourth—Black vomit.

Fifth—General hemorrhagic tendency.

Sixth—Yellowness of skin.

The following cases shall also be deemed suspicious:

Seventh—Any cases respecting which reputable and experienced physicians disagree as to whether the disease is or is not yellow fever.

As regards treatment, there is no set rule to follow. In fact, being a self-limited disease, there is nothing much to do but to treat it symptomatically. The least interference with its normal course is, perhaps, the most successful plan of procedure. If taken with a chill shortly after a hearty or indigestible meal, it is advisable to use a mild emetic of mustard or of salt and warm water. If constipated a glycerin suppository or soap-and-water enema is indicated. Some prefer tasteless castor-oil, seidlitz powder, or citrate of magnesia. The initial treatment with many of our experienced doctors is 2½ grains each of calomel and soda.

As a rule, the majority of New Orleans doctors who have had experience with the fever prefer the warm to the cold plan of treating it, i. e., giving warm instead of cold drinks, until free perspiration is established. By flushing the alimentary canal and kidneys with pure cold water much good is done.

The first thing to do is to give a warm mustard foot-bath, in which the feet and legs up to the knees are kept in hot water for a half to one hour, if necessary. This usually results in free perspiration. Nausea is not likely to come on at this stage, but when it does, it is best treated with mustard over the stomach, or with teaspoonful doses of equal parts of cherry-laurel water and milk of magnesia. Crushed ice and iced champagne are recommended for nausea in persons accustomed to drinking. Bicarbonate of soda and peppermint-water suit some cases, especially where the stomach is acid.

In severe cases, where the temperature-range is high and pain is great, from 3- to 5-grain doses of phenacetin or 5-grain doses of acetanilid may be given within the first few hours, but not repeated. Cold towels and water-bag to the back of the head, as well as the front, are very grateful to the patient. The arms may be sponged with cold water, but general sponging of the body with ice-water is to be deprecated. Alcohol and cool water should be used, instead. Kibbe died upon his own ice-cot, a memorable and lamentable example of trying to freeze out the fever. If there is a lagging on the part of the kidneys, 20 drops of turpentine in soft gelatine capsules with watermelon-seed tea is the treatment. Suppression of urine is to be watched for. Albuminous urine is common and to be expected, but when the urine begins to get scanty we must apply hot applications over the kidneys, give watermelon-seed tea or some such simple diuretic as spirits of nitre and squills. The kidneys must be kept up to their duty, if possible, as anuria is almost certainly followed by death.

If the patient can successfully pass the sixth day and is exceedingly careful about diet and exercise he stands a fair chance of recovery. Muttering delirium, albuminous or suppressed urine are exceedingly unfavorable symptoms, and may wind up a case fatally in a very short period of time.

Upon the theory that the infection exists in the bowels and that intestinal disinfection is necessary, Dr. Sternberg recommends a solution of sodium bicarbonate and mercuric chloride in water internally four times a day.

To prevent auto-infection a brisk purge of sulphate or phosphate of soda is advisable, and naphtol and benzoate of soda have been used internally.

Diet—Most of our doctors recommend a four days' fast. All of them only allow the most bland and liquid food. The theory of starving the patients and drenching them with water is the rule followed by many. The stomach is not in a condition to absorb food even if eaten. Since some is necessary to exist, those used with best effect are milk and lime or Seltzer water, barley water, flaxseed tea, weak tea, meat or chicken broth, soft-boiled eggs and egg albumen in cool water. As convalescence begins, the appetite is often voracious, but liquids and semi-solid food should be kept up to prevent relapses.

One reason children get well more quickly than grown people is the fact that they are not conscious of the prevailing excitement about the fever. Acting upon this theory all discussions and conversation about death or spread of the epidemic should be avoided in the patient's room. The patient should not be allowed to take his own temperature, nor should the doctor take it oftener than four times a day, and the patient should not be told what it is if above 102° F. Not more than two persons should be permitted in the room at one time, and after the first two days it is well for the patient to be kept covered with a light spread or blanket. The bowels should be opened by a saline enema after the second day. Castor-oil and glycerin might be used as an enema if the salt fails to act.

Nausea may be controlled by 1- to 10-grn. doses of calomel and 1/8-grn. doses of cocain floated into the stomach with cool water. Crushed ice should be supplied to cool the throat, provided the fever is high. If the heart is very weak and about to fail 1-30 grn. strychnine hypodermatically or 1/2-grn. doses of citrate of caffein.

In Havana, Cuba, several years ago, yellow-fever patients were put in a room of cold air, or where temperature of room was reduced to the frost-line for the purpose of combatting the fever. Its advocates claimed good results, but it has not been generally accepted. One of the methods of reducing high temperature here is the cold rectal enema of as much ice-water as can be conveniently held.

The surgical treatment of the fever may be shortly summed up into bleeding, either by cups, lancets or leeches. In the robust, where the pulse is bounding and temperature high, this helps them just as it might help in acute pneumonia. If collapse is imminent and hemorrhage great, the intravenous injection of normal saline solution at the temperature of the blood might avert a crisis.

L. SEXTON, M.D.

New Orleans, Sept. 20, 1897.

CORRESPONDENCE

Indiana's Tabooed-colleges List Corrected

To the Editor of the A. M.-S. BULLETIN:

On page 860 of your publication for September 25 is a list of colleges said not to be recognized by the Indiana Medical Board, etc.

This list is not the authorized list, as the board has explained to a number of colleges which it holds in good standing. This list was obtained surreptitiously by a reporter and spread broadcast, to the detriment of several first-class colleges—for instance, the P. and S. of Chicago (New University of Illinois), Dunham, and the National. There are several others in the list that are in good standing with the Indiana and all other boards. Kindly say in your next that the list is incorrect. Fraternally,

L. D. ROGERS.

Chicago, Sept. 28, 1897.

Homeopathy

To the Editor of the A. M.-S. BULLETIN:

To say that I was surprised to see my recent letter to you in print in the columns of your journal of September 10, faintly expresses the fact. Nor was I less pleased than surprised, for I cannot recall, in the twenty-seven or twenty-eight years in which I have diligently read some of the leading journals of your school, ever having before seen an instance in which a "homeopath" was allowed to be heard in his own defense. In re-reading that letter, I am willing to admit that I wrote with more of heat and apparent bitterness than was necessary or was intended. But what I wrote was upon impulse, after reading your editorial; and as I was about leaving the city for a short vacation, I had no time for calmer consideration. While I thus apologize for my rather harsh and discourteous language, I fail to find any statements in that letter which I could retract.

Though I feel it impossible, in the space which could possibly be allowed me (should you kindly again consent to open your columns to me), to discuss at all satisfactorily the points raised, yet I consider myself happy to have the opportunity for a fuller statement, as I believe a large part of the present sectarian feeling might be avoided, did we but understand each other better.

I will then attempt to reply, as briefly as possible, to the points made in your editorial note regarding my letter. It may be I am oversensitive, but I beg you to remember that to be called a "quack" and classed with frauds and impostors, ignoramuses, and liars, has a tendency to disturb the equanimity of even the most placid of mankind; and this is the almost constant experience of homeopaths everywhere. Allow me to recall a few of the expressions used in your editorial, and then you shall judge whether I had not some excuse for my statement as to their seeming to be contemptuous and insulting. After specifying homeopaths first among medical sectarians, you say "To *delude* the public into believing that we are the same in this particular, one of these bodies deliberately applied the *lying epithet* Allopath to us," etc. "They" (the public) "do not and cannot see that we simply fight to compel sectarians to acquire an education *equal to our own* and to *tell the truth* about themselves and their methods. In each of these contentions we simply seek to protect the public *against fraud.* Honesty is no match against *lying* and *humbuggery,*" etc. (The italics are my own.) "It is only when a man is *ignorant,* pretends to cure every disease that flesh is heir to with one specific method or formula, or *claims impossible results* that we call him irregular." "Only when he *violates the principles of manhood and honor* is he expelled from fellowship." "Every grant of a charter to a school to teach an exclusive dogma is but a *licensing of fraud.*" Did not the foregoing expressions intend to refer to homeopaths? Was I oversensitive in considering them insulting? It may have been your "honest statement of opinion"; still, if I were to give every man an honest statement of my opinion of him, I should not be surprised if some men would consider it insulting, and many would object to my entertaining such opinions, and perhaps justly. Let us now pass on to (b). My statement was that "The crime of which we are guilty consists in claiming there is a *law* which guides us *in the selection of our remedies,*" etc. This law is enunciated in the formula "Similia similibus curantur." This law is the sole and only ground, is it not, upon which you base your assertion that we are "sectarian" and are bound by a "creed"? Now, while I acknowledge this law and employ it constantly in my selection of remedies to cure disease, I *repudiate utterly* the statement that I am in any way *bound* by it or in any way prevented from using any remedies or means which my knowledge or judgment may dictate as being necessary or desirable for the welfare of my patient, whether given empirically or otherwise. And in this I believe I express the sentiment of at least nine-tenths of the homeopathic profession. When did we ever abrogate our right to "try all things, hold fast that which is good"? Our opponents are the ones who insist that because we acknowledge a law, we are bound by it and can use nothing else, and are, hence, bigoted sectarians. On the other hand, when we deny any such bondage and assert our right to the accumulated knowledge of all the ages, we are denounced as dishonest and no homeopaths.

As well denounce the physicist who acknowledges the law of gravitation, and yet refuses to base all his operations and calculations upon this law alone.

When I call myself a homeopathic physician, I simply mean to say that I recognize the law of homeopathy, and take advantage of it in my treatment of the sick. If I am asked, Does the giving of remedies selected according to the homeopathic law constitute your entire armamentarium for the treatment of the sick? I answer, *by no means.* I once saw a redoubt armed with the very best rifled cannon then available. The enemy stormed it in overwhelming numbers. The cannoneers stood by their guns and used them to the utmost so long as they were available; when the enemy swarmed up the parapet, they seized their rifled muskets and emptied them; when they pressed still closer they plunged their bayonets into their vitals, and at length clubbed their weapons and dashed out their brains. This illustrates my idea of fighting disease.

There may be those in the homeopathic ranks who are willing to limit their duties as physicians to the selection of the homeopathic remedy. If so, they are few, and by no means represent the profession, any more than do those in your ranks who would limit their resources to the use of electricity, for example.

(c) Now, if your school have any law to govern or guide you in the selection of your therapeutic measures, I would very much like to see it enunciated. We have watched and waited long for it. Empiricism is defined (Century Dictionary) as "reliance on direct experience and observation, rather than on theory." Is it true that this does not represent your method of determining the application of your remedies? If it does not, I have something new to learn as to that. Could one of your school have foretold, without ever having seen a case of Asiatic cholera or having had any experience with his method of treatment in that disease, what remedies would be found most effective in practice, as Hahnemann did?

Supposing, for argument sake, that we allow ourselves to be restricted to the application of our therapeutic law in our practice, does this not leave us the range of a Materia Medica as wide as the world and as varied as your own? What is there narrow or exclusive about that? If a librarian has a system by which he may go directly to the alcove and shelf to lay his hand unerringly upon the desired volume, does that make his library less comprehensive than if he must grope about by the dim light of memory to find what he is seeking? However, no homeopath claims, or has ever claimed (as far as I know), that this law applies except to the selection of remedies for the *curing* of disease. Every physician recognizes that a wide variety of cases exists in which, in the nature of things, it would be unreasonable to expect that the application or adminstration of any medicinal substance would cure or even relieve—such, for example, as arise from mechanical, chemical, or toxic influences. These we have never claimed to overcome by therapeutic means alone; yet we are often ridiculed and stigmatized as dishonest if we resort to the appropriate measures which common sense dictates for their treatment.

We have as good a right to resort to palliatives and anodynes as to employ anesthetics in surgery, whenever in our judgment the welfare of our patient demands it; but we do not look upon these measures as curative or as taking the place of proper therapeutic remedies. While we recognize that they are objectionable and injurious, as a rule, we also recognize that there may be worse evils which they may avert, and hence choose the lesser of the two. Yours very sincerely,

ALBERT G. BEEBE.

Chicago, Sept. 20, 1897.

The Massachusetts State Board of Registration in Medicine intends soon to compel all medical men living near the border of their State and who have patients in the State to come up and pass their examination for registration.

An osteopathic doctor, named Jones, of Indianapolis, Ind., gives over his own signature the following foggy description of his cult:

"Osteopaths have discovered that partial dislocations are the most frequent causes of disease. A partial dislocation of the shoulder will cause rheumatism of the hip-joint, rheumatism and hip-joint disease (arthritis) of the spinal column, various diseases of the brain, nervous system, stomach, liver, kidney, and other organs. Consumption and asthma are oftentimes caused by a depressed rib, the elevation of which would remove the cause and save the person's life. Partial dislocation being the original cause, the primary etiological factors in disease, a cure cannot be made permanent and absolute until the proper adjustments are effected. Medicine will not do this; osteopathy will, and herein lies the great secret of its success."

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Editor: ROBERT G. ECCLES, M.D.

COLLABORATORS:

Wm. C. Braislin, M.D. Edward N. Liell, M.D.
William B. Coley, M.D. W. J. Robinson, M.D.
H. P. DeForest, M.D. L. Schöney, M.D.,
William Fankhauser, M.D. Herman B. Sheffield, M.D.
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EDITOR'S NOTES

The *Phrenological Journal* often devotes a page to comments upon its exchanges. The August number had the following kind words to say about us, for which we return our thanks to the editor: "AMERICAN MEDICO-SURGICAL BULLETIN maintains a liberal, as well as an independent course. The attitude with regard to the promotion of the interest of the private practitioner is highly praiseworthy. Our friends in the profession should see to it that the BULLETIN is well sustained."

We Americans have long been accustomed to the weather-predictions of "Old Prob." The farmer and the mariner anxiously consult his messages concerning the weather before undertaking their respective kinds of work. Regions of high and low pressure, the paths of wind-currents, the courses of cyclones and tornadoes, and the tracks of blizzards have become themes of popular conversation among us. When "deep torrents drench the swimming plains" in any part of the United States our people in remote parts are made aware of the fact and watch intently the path of such a storm. We now learn that an effort is to be made to do for all disease what is now done for meteorology. The international journal, *Janus*, is seeking to establish in all countries epidemiological stations where data are to be collected and forwarded to Dr. A. Davidson, 30 Morningside Drive, Edinburgh, Scotland. From the central station will come the predictions concerning whither a given kind of disease is traveling. We wish *Janus* all possible success in this undertaking.

The Spanish Government is naturally responsible for the present epidemic of fever that is playing havoc in some parts of the South. Our improved sanitary conditions are lightening the severity of the attacks in this country, but there are in the aggregate a large number of deaths among our people for which Spain should suffer. Weyler made a pesthouse of Havana, and the fleeing refugees brought the disease to our shores. Havana has been a plague-spot for many years and a menace to us, but in its present condition it is unusually bad.

Dr. Z. T. Miller, of Pittsburg, president of the Pennsylvania Homeopathic Association, in an address at Scranton, on September 22d, made a rather bad showing for the progressiveness of the rank and file of homeopaths. According to the Scranton *Truth* he denounced the use of antiseptics, said that germs exist principally in the imagination of the experimentors, opposed the public-school demand for vaccination, and asked to have criminals turned over to homeopaths for use in the provings of drugs. We wonder if this doctor ever looked through a microscope at a culture of pathogenic or other micro-organisms. We also wonder if he ever tried an antiseptic on an undoubted mass of germs and noted the effects. He deliberately denies facts so simple that any schoolboy could be convinced, even against his will, in a few minutes. Dr. Miller might as well try to deny the existence of his own body as to deny the efficacy of antiseptics, a thing as well demonstrated as is the existence of houses in New York city. If he said what is attributed to him he simply betrays his own ignorance.

Our editorial on "A Lesson the Public Needs," still seems to be a cause of war. In our correspondence-columns will be found another interesting letter on the subject. Our correspondent does not show that we were wrong in saying that "one of these bodies deliberately applied the lying epithet allopath to us." He acknowledges that it was done by the homeopaths, but thinks it all right that we should accept the title with thanks. It seems nothing to him that we deny being allopaths or practicing any such system. We are no more allopaths than he is. In spite of our protests and in spite of our denials, the homeopaths have taught the public that we are. Is this not fraud, lying, and humbuggery? If we are mistaken in this we should like to have Professor Beebe tell us what it is. Why call us allopaths unless with the avowed object of contrasting us with homeopaths, and naturally in a way to favor the latter, and in the public mind discredit us? Is it not exactly the same as quietly and insidiously leading the public to believe that some honest man is a liar or a thief, or some chaste woman is a wanton? As regards "similia similibus" we have always understood that homeopaths considered it a law of nature and not a vacillating thing of the imagination. Natural laws have no exceptions. It either is or is not a law. If it is a law then it can have no exceptions, and all treatment must come under its sway. To hold that it is a law is therefore to hold to an exclusive doctrine. When Professor Beebe says that he "repudiates utterly the statement" that he is "in any way bound by it," he simply asserts that he does not practice consistent homeopathy. To have a law and not to follow it implicitly when the lives of people who are in our care depend upon our doing so, seems to us to be akin to murder. If nine-tenths of the homeopathic profession are no longer "bound" by this law, we certainly should not like to be of them, for our conscience would cry out against us. What is the use of trying all things when a law is already in our grasp? The time for trying has ended. Homeopaths have a perfect right to assert their rights "to the accumulated knowledge of the ages," but they should show that *all* of that knowledge is but evidence of the "similia similibus" doctrine. Any physicist who should pretend to base a calculation of a falling body on some other law than gravity would meet with scant courtesy among physicists generally. There are resisting forces to contend with by falling bodies, but these never allow him to ignore gravity in his calculations. He is bound to consider gravity. To fight disease as we fight an enemy is the doctrine of true physicians, but cannot be the doctrine of a sect that claims to follow a law in its treatment. When a librarian has his library classified it is certainly a great service to him, and does not lessen its scope. If homeopaths had a law it would cover completely all there is in materia medica. The fact that it does nothing of the kind is proof that it is not a law. There is always a soul of truth in every philosophical error, and there is probably the adumbration of a law in their dogma. This will be found in our practice when a complete and correct generalization is made. When found we believe it will be an extension of Mendeleef's law and not Hahnemann's. The spark of truth the latter contains will be found in the former.

PUBLISHERS' DEPARTMENT

MALTZYME—A NEW. PRODUCT

As will be seen from our advertising columns, a new concern under the name of the "Malt-Diastase Co.," is presenting to the profession a line of diastasic malt products which has been termed Maltzyme.

Modern scientific research into the chemistry and therapeutics of malt products has resulted in the marketing of numerous preparations derived from malt, for which diverse claims have been made. In this connection it is interesting to note that until a comparatively recent date, the therapeutic value of malt extracts was attributed to their nutrient properties alone; and it required persistent effort on the part of a few enthusiasts like Dr. C. C. Fite, of New York, to convince the medical profession of the identity of the diastase of malt with the ptyalin of saliva, and consequently of its value in the treatment of starchy indigestion, which is probably the most common form of indigestion. Dr. Fite may justly be termed the apostle of diastase, in that it is largely owing to his earnest propaganda that the value of this enzyme has been so thoroughly established. He is the general manager of the new company, and Mr. C. von Egloffstein, the well-known Brooklyn chemist, is superintendent of the laboratory.

A RELIABLE FOOD

A physician writes to Messrs. John Carle & Sons, New York City:

Gentlemen—I have received the "Nursing World Clinical Records" and samples of your Imperial Granum, although it was unnecessary to send the latter to acquaint me with its value, as we have a living example in our only son of the worth of Imperial Granum, and I have prescribed it constantly for eleven years, and always with the very best results.

Sept. 2, 1897.

Clinical records and samples of this celebrated food are sent free, charges prepaid, on application to John Carle & Sons, 153 Water Street, New York City.

RESINOL

The Resinol Chemical Co. have received the following:

Alturas, Cal., Sept. 15, 1897.

I have in my family a case of squamous eczema of twenty years' standing, and I am pleased to say that I accomplished more with one sample box of Resinol than I had in twenty years with all the treatment known to the medical profession.

A. Blondin, M.D.,
County Physician and Supt. of Hospitals.

NEWS

Dr. C. M. Blackford, Jr., has been chosen to fill the new chair of pathology in the medical department of the University of Georgia.

The State Medical Board of Ohio declares that osteopaths must pass the medical examination and register whether they give medicines or not.

The Japan Red Cross Society is about to build two hospital ships of 2600 tons each, at a cost of 1,000,000 yen, to be used for patients in time of war.

The Newark, N. J., Physicians' Club is after the scalps of all its members who allow themselves to be interviewed by reporters for the sake of having their cases reported in the public press.

The Vermont State Medical Society holds its eighty-fourth annual meeting at St. Albans on October 14 and 15, and an exceedingly interesting programme has been prepared for the occasion.

Instructions have been sent out by the Marine-Hospital Bureau to have our present epidemic of yellow fever studied in the light of Dr. Sanarelli's discoveries concerning the Bacillus icteroides.

St. Mark's Ophthalmic Hospital and the National Eye and Ear Infirmary of Dublin, Ireland, have been amalgamated by an act of Parliament and will hereafter be known as the Royal Victoria Eye and Ear Hospital.

President Faure on a recent visit to the Nanterre Hospital, made a present of $200 to provide the poor, on leaving, with decent clothes. The patients of this hospital can at present go out in a condition fit to seek employment with some hope of receiving it.

Mayor Collier, of Atlanta, Ga., has instructed Chief Veal to proceed legally against Dr. W. C. Leary, of that city, for attending a case of yellow fever and not reporting it. The doctor declares that he only saw the patient twice when he was dismissed, and did not have time to make a diagnosis. The penalty if convicted is $100 fine or thirty days in jail.

Medical-practice Laws of Various States

Alabama—Each county has a Board of Examiners, elected by the County Medical Society. An applicant for practice in the State, if a graduate of a reputable college, must appear for examination before the Examining Board of the county in which he proposes to locate. If his examination is satisfactory, he receives a certificate entitling him to practice. If he then moves from one county to another in the State, the certificate of satisfactory examination is sufficient to let him register in the county into which he moves. Then there is a State Board before which those who fail before a County Board may appear for examination. If then satisfactory, a certificate to practice is granted. All non-graduates have to appear before the State Board for examination. The State Board is nominated for commission by the Governor, by the Counsellors of the Alabama State Medical Association, which represents altogether the Regular school of practice. Examinations are held in the usual department of medicine. This is the only State that has such a law.

Alaska has no Examining Board. There is no law as to who shall practice medicine.

Arizona has no State Board. Any one can practice in this State.

Arkansas has a State Board, and it is their duty to examine any one who has not the diploma of a recognized medical school.

California has no State Board, but requires of each applicant wishing to practice medicine in that State that he shall register his diploma as the graduate of a recognized medical college.

Cherokee Nation has a Medical Examining Board. Graduates and non-graduates go before this board on the same footing.

Choctaw Nation has a Board of Medical Examiners that requires the applicant either to register his diploma as a graduate of a reputable medical college, or else he must pass an examination before this board.

Colorado has a State Board of Examiners composed of six Regular practitioners, two Homeopaths, and one Eclectic—all appointed by the Governor. Examinations are required of the non-graduates only. The holding of a diploma from a recognized college of medicine is sufficient for registration.

Connecticut has three State Boards of Examiners, each appointed by the Governor—representing respectively the Regular, the Homeopathic, and the Eclectic schools of practice. Graduates of a recognized college of either school are required only to register their diplomas before the board of the school of practice to which his diploma points. Non-graduates only are required to stand examinations on the usual departments required by the board representing that school which the applicant may elect.

Delaware has two State Boards of Examiners—a Regular and a Homeopathic—each appointed by the Governor. Non-graduates are not allowed to appear for examination. Diploma from a recognized college is required of each applicant for examination by either board.

District of Columbia has just succeeded in getting an Examining Board. All applicants for examination must be graduates of recognized schools.

Florida has two State Boards of Examiners—Regular and Homoeopathic. Both of these boards require applicants to pass examinations. Non-graduates are allowed to come up.

Georgia has three State Boards of Examiners—representing respectively the Regular, the Homeopathic and the Eclectic schools of practice—each appointed by the Governor. Non-graduates are not allowed to appear for examination. Diploma from a recognized college that required not less than three years of study is demanded of each applicant for examination by either board.

Idaho has one State Board—composed of three doctors representing the Regular school, two the Eclectics, and one the Homeopathic—appointed by the Governor. Diplomas are not recognized as entitling to practice. All future applicants to practice in the State must stand examination before the board. License fee, $5. The board may refuse license for unprofessional, criminal, immoral or dishonorable conduct.

Illinois has a State Board, but does not examine graduates from recognized medical colleges—their diplomas being sufficient. Non-graduates, however, are examined.

Indiana has a State Board of Medical Examiners, consisting of five members, at least one of whom shall represent one of the four schools of practice—Regular, Homeopathic, Eclectic, and Physio-medical. The board requires of those who are seeking to practice medicine and surgery in that State, that they must register their diplomas as graduates of a recognized medical college; otherwise, they must pass a creditable examination before that board.

Indian Territory has an Examining Board that requires each candidate—graduate and non-graduate—to pass an examination before issuing a license to practice medicine.

Iowa has a State Board, which requires an examination of the applicant, unless he holds the diploma of a reputable medical college, in which case he is exempted by the board.

Kansas has no State Board. The laws of this State allow almost any one to practice medicine.

Kentucky has no State Board, but only those who are graduates from recognized schools, and whose diplomas are approved by the State Board of Health are allowed to practice there.

Louisiana has two State Boards of Examiners—Regular and Homeopathic—each appointed by the Governor. Before applying, each applicant for examination must have a diploma from a recognized school.

Maine has a State Board appointed by the Governor. An examination by this board is required, as a diploma is not sufficient.

Maryland has two State Boards of Medical Examiners—a Regular and Homeopathic. Non-graduates are not allowed to come up for examination. Diplomas from recognized medical colleges are required of applicants by both boards.

Massachusetts has a State Board appointed by the Governor. Each applicant must pass an examination before this board, unless he registers his diploma as a graduate from a reputable medical college.

Michigan has no State Board. Practically any one can practice medicine there.

Minnesota has a State Board of Medical Examiners, which is appointed by the Governor. Each applicant for examination must hold the diploma of a recognized medical school.

Mississippi has an Examining Board composed of members of the State Board of Health. It is not necessary to hold a diploma to apply for examination.

Missouri has no State Board. It is required, however, of each person applying for a license that he must register his diploma as a graduate of a recognized medical school.

Montana has a State Board, appointed by the Governor. Each applicant for examination must have a diploma from a reputable medical school.

Nebraska has no Examining Board, but the State Board of Health can recognize diplomas only from medical schools which require a preliminary entrance examination, or the equivalent thereof, and attendance upon at least four annual courses of lectures of not less than six months (no two within the same year), before granting the degree.

Nevada has no Examining Board. Any one can practice medicine.

New Hampshire has a State Board. Each applicant for examination must hold the diploma of a recognized college.

New Jersey has a State Board. Any one passing their examinations may practice.

New Mexico has an Examining Board, but any one holding the diploma of a recognized school is not examined.

New York has three State Medical Examining Boards—Regular, Homeopathic and Eclectic. Each applicant for examination must have a diploma from a school requiring three or more years.

North Carolina has a State Board of Examiners, elected by the Medical Society of North Carolina, whose requirements are that a candidate must pass the board's examinations.

North Dakota has a State Medical Examining Board, which is appointed by the Governor. Examinations are required of all applicants, graduates as well as non-graduates.

Ohio has a State Board, appointed by the Governor. Graduates with diplomas from recognized medical schools are not examined.

Oklahoma has a Board of Medical Examiners. Graduates with diplomas from recognized schools are exempted from examination.

Oregon has a State Board, and all applicants for licenses to practice medicine must come up for examination. No diploma is recognized as a sufficient qualification to practice.

Pennsylvania has three Boards of Examiners—Regular, Homeopathic and Eclectic—all of which are appointed by the Governor. Examination is compulsory, and none but graduates from reputable medical schools are allowed to apply.

Rhode Island has a State Board of Medical Examiners, that requires an examination of each candidate who has not a diploma from some reputable medical college.

South Carolina has a State Board. No diploma is recognized, and graduates as well as non-graduates must pass the board's examinations.

South Dakota has no Examining Board, but each candidate for license to practice must be a graduate of some recognized school that requires three or more years.

Tennessee has a State Board, which requires an examination for license, but it accepts the diplomas of certain colleges as evidence of that examination.

Texas has no State Board. This State allows most any one to practice.

Utah has a State Examining Board, that examines both graduates and non-graduates who wish to practice in that State.

Vermont has a State Board of Examiners, which examines all candidates save those holding diplomas from recognized medical schools.

Virginia has a Medical Examining Board of twelve Regular practitioners nominated by the Medical Society of Virginia and commissioned by the Governor; also two homeopaths nominated by the Homeopathic Society, and likewise commissioned by the Governor. All applicants are examined by this board—whether graduates or non-graduates.

Washington has a State Board, which is appointed by the Governor. Those applying for license to practice must first come before this board for examination. Non-graduates may apply.

West Virginia has a State Board, appointed by the Governor. Those applying for a license to practice are required to pass the board's examinations, regardless of whether the applicant holds a diploma or not.

Wisconsin has just secured a State Board of Examiners, to be appointed by the Governor from lists of ten names each, presented by the State societies representing the three schools of practice, to consist of seven members—three representing the Regular school, two the Homeopathic, and two the Eclectic. All holders of diplomas from reputable colleges are free to practice without examination; but all others are obliged to pass an examination before the Board of Examiners. This board must also pass on the merits of the diplomas submitted by holders.

Wyoming has no State Board, and the law allows practically any one to practice medicine. —*Virginia Medical Semi-Monthly.*

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Medico-Surgical Bulletin

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EDITORIAL

THE ENZYMES IN HEALTH AND DISEASE

PROFESSOR T. LAUDER BRUNTON, in his recent address at the International Medical Congress at Moscow, which we published in our last issue, introduced a rather startling suggestion concerning the rôle of the enzymes in health and disease. He merely touched upon the subject, but did so with sufficient distinctness to indicate the trend of his mind and the possible drift of modern medical science as seen in some of its recent discoveries. He seems to think that early in the seventeenth century Dr. Johan Baptista van Helmont, the celebrated iatro-chemist and disciple of Paracelsus, was not far astray when he held that all vital activity is associated with fermentation, and that the latter is the foundation of life-processes. Necessarily, then, it would also be the directing force in health and perhaps in disease. This Belgian physician, the first to strike a telling blow at the dogmas of Galen, was also the first to suggest anything like a true explanation of the process of digestion. Although it was a mere adumbration, yet it is worthy of note that nearly three centuries of scientific research seem about to confirm his central idea and establish it as a truth of physiological chemistry. Had his mind been free from the superstitious cobwebs of his archæus, and had he suspected the true nature of fermentation, he would perhaps have seen with almost as much clearness as we do to-day how our bodies are being built and sustained from day to day in health and life. Fermentation bids fair to become established as one of the principal, if not the principal directing force in this work, but the way it acts was wholly unknown to and wholly unsuspected by van Helmont. He knew nothing of the chemical substances we call enzymes that are now known to be the active directors of many and perhaps all forms of fermentation. One by one these substances are being isolated, though in an impure condition and through them the fact is becoming established that they, and not the cells that produce them, are the true directing causes of fermentation. The first of such substances crudely isolated and experimented with was pepsin. This was done a little over two hundred years ago by a young Scotch physician named Stevens. In an inaugural thesis to the University of Edinburgh, he explained how he secured some gastric juice from a dog's stomach, and by its aid had in eight hours digested a piece of meat therewith, by placing it in a vessel that was kept warm. No one has yet succeeded in getting pepsin or any other enzyme perfectly pure; but it has been secured sufficiently pure to digest 25,000 times its own weight of albumin in less than six hours. Since the discovery of Stevens a large number of substances possessing similar properties to pepsin have been imperfectly isolated, and others have been inferred as existing because of the presence of results that they would best explain. Each new step taken in physiological chemistry appears to bring us in contact with evidence of the existence of others. In both constructive and destructive metabolism these enzymes seem to be the *dirigomotors* that determine the kinds of changes which our pabulum and the contents of our blood shall undergo. Their mere presence appears to be the sole cause that brings about these changes. They remain unaltered in composition whatever the change they evoke. If they do undergo any alteration in their structures by bringing about such changes as they produce, then they must quickly swing back to their original form again. The first one our food meets on entering the mouth is the ptyalin of the saliva. This begins at once to convert the starch of the food into malt-sugar. its action continues in the stomach for half an hour or more until the food-mass becomes distinctly acid. Following the action of the ptyalin on the starch comes that of pepsin on the proteids, aided by that of the rennet on the casein. In the intestines the food is subjected to the enzymes of the pancreas and other glands. Among these we have the trypsin that converts proteids into peptones, the amylopsin that changes starch into maltose, the lipolyn, piolyn or steapsin, as it is variously called, that splits fats into glycerin, and fatty acids and the glucase, invertin, and lactose that invert sugars. Glucase is also found in the blood and in minute amounts in the saliva. It is most abundant in the blood, and has been lately studied by Rohman, Hamburger and Bial, in Germany, Tebb in England, and Chittenden in the United States. So minute is the amount in the saliva that it has practically no effect on the food until it reaches the intestines. Lepine and other physiologists, on studying the effects of extirpation of the pancreas, hold that this organ must pour into the veins a glycolytic enzyme that aids us in utilizing the dextrose of the blood. When the pancreas is arrested in this function from any cause, they claim that diabetes ensues. Without the enzyme they think that there can be no destruction of the dextrose of the blood. The conversion of dextrose into glycogen is also supposed to be accomplished by a ferment of the liver. Alexander Schmidt and others have isolated a myosin-ferment from muscle, and Schmidt, Gamgee, and others have procured a fibrin-ferment from the blood. A cellulose-digesting ferment is believed to act in the intestines, a thyroid ferment is supposed to exert some sort of active part in saving us from myxedema, and a suprarenal ferment is thought to perform a similar function in saving us from Addison's disease. The glands. so far as we yet can determine, seem to be the workshops or chemical laboratories of the body where special secretions are produced that are necessary for the proper carrying-on of healthy bodily function. These secretions are believed to be either enzymes or something that needs the aid of an enzyme to be utilized. Extirpation of the greater part of both kidneys does not necessarily diminish the excretory function of these organs, and yet when they are removed the metabolism of the body is disordered, wasting sets in, and marasmus, followed by death ensues. These results cannot be due to the failure of the well-known excretory function. The usual amount of the urine has been excreted. What then is the cause? It has been explained as a case similar to that of the pancreas or of the thyroid gland. The kidneys are supposed to have the power of secreting something needed in building up the body, and their extirpation by cutting off the proper supply of this something causes the wasting that occurs. As no one has yet succeeded in checking the wasting that occurs when the kidneys are partly extirpated by using an extract from that organ, the matter remains at present one of pure speculation. It is a well-known fact that removal of the chief sexual glands either from the male or the female interferes with general nutrition and alters the whole character of the individual operated upon. Whether this is due to the disturbance of the physical equilibrium of the bodv or to the cutting-off from the blood of some special substance which these glands secrete and that is necessary to the proper nourishment of the system, no one yet can say for certain. A few years ago Professor Brown-Séquard created quite a sensation by proclaiming that he had discovered that testicular fluid, extracted from the fresh testicles of rams, had an exhilarating effect upon aged people. The newspapers took the matter up in a sensational way and heralded it abroad as the discovery of the elixir of life. Of course this brought the whole affair into ridicule and checked all further serious research in this direction..

THE RANGE OF HYPOTHETICAL ENZYMES

THERE can be no life except under the conditions essential to life, and one of the most pronounced of these conditions is the ability to utilize food-material. Everything that lives must have food, to utilize which the organism must first dissolve and then fix it again as a solid within its structure. All life as we know it exists in protoplasm. This substance is chiefly built up from proteids. Most of these exist as solids and require to be dissolved before they can be absorbed and enter into the composition of the tissues. It is manifestly impossible for them to find their way into the intimate structure of an organism except in solution. In reaching their destination they must become insoluble again or they could not remain there as tissue-builders. Every known form of life on this planet must be able both to dissolve and to resolidify proteids. All such work, so far as the physiological chemist has been able to discover, is accomplished by the aid of enzymes. These bodies have the power of bringing about chemical changes wihout destroying themselves. They are supposed to accomplish it much in the same way as sulphuric acid produces ether. The change of an insoluble into a soluble proteid is believed to be brought about by the enzyme aiding in the forcing into the molecule of the proteid a molecule of water. The nearer a chemical body approaches in its structure any liquid the more likely is it to be soluble in that liquid. If the molecule of the liquid can be made to unite chemically with the solid, this kinship is accomplished, and that solid is then likely to be soluble in that liquid. This seems to be the true explanation of what occurs when starch or celluline becomes sugar and when albumin becomes peptone. In all such changes within the body enzymes are found to be necessary to bring them about. As every organism, however simple its structure, must be able to bring about chemical changes of this kind in order to live, it is quite reasonable to suppose that they all accomplish it in a somewhat similar manner. We might claim that it is done by the aid of an archæus or by vital force, but such hypotheses would be purely fanciful and metaphysical. We know what enzymes are, and we know what chemical activity is, but we do not know anything about vital force. No theory can be of any possible use that is based on causes that are themselves speculative and unverifiable. Such theories hinder rather than help science, as their sponsors are usually wed to them in a way that permits of no divorce. Theories are the temporary scaffolding of wise men but the permanent structures of fools. A good theory is never as first presented wholly true, but is merely a guide to the final truth. As physiological chemistry advances these enzymes are being discovered in increasing numbers and in places where we can anticipate finding them. They have already turned up in each of the grand biological divisions. Animals are now known to contain them, they have been found in the higher plant-forms, and micro-organisms have also given them up to the analyst. To predict that they will be found in every kind of living being is no more than asserting that beyond the horizon there are conditions like those within the present range of our vision. Every form of animal and vegetable life, from the ameba upward, dissolv - and then fixes again as part of itself the food that reaches it. The only scientific explanation of this is that two or more enzymes are secreted. If any of them have but two, one of these must resemble pepsin and the other the fibrin-ferment, or else the zymogens of these. From what we know of natur: and of the chain of continuity that binds it all into a common whole, we might readily infer that with advancing complexity in the structures of plants or animals there would be an increase in the numbers of these enzymes and in the kinds of work which they would have to do. The man who believes in evolution would naturally be expected to see successive steps of differentiation all the way up the line from the ameba to man. A condition so general as one that embraces all living things he would naturally expect to find subject to variation through environment and to be subject to selection by virtue of fitness. If his theory is true the number of enzymes should be vast. If we got nerve-force by the differentiation of the irritability, and muscular force by the exaggeration of the contractility of primitive life-stuff, and if all other tissues possess some irritability and some contractility, then every cell of the body should have the power of secreting some kind of modified enzyme. The glands would then be deemed the eminently secreting organs. Every cell of the body must have some power of this kind to enable it to receive and fix its own pabulum. The growth of knowledge is showing us that they do have some such power. The amount of it only the experiments of the future can reveal. Be it little or much, it is fraught with interest to the progressive medical man. The existence of such functions in the body presupposes their possible derangement and the establishment of pathological conditions of which we are now ignorant. If the metabolism of the body can be arrested at many points and in many ways by the absence of substances the existence of which we do not at present more than merely suspect, then the quicker we learn the facts in the matter the better for us and our patients. The absence of any one of them may cause a deviation from the normal products of the body, not only at the point of change, but throughout a whole series of substances, of which it may be only the initiatory step. Analogy would, however, lead us to expect that each enzyme might have a substitute that could partly or wholly perform its function in its absence. Pepsin has trypsin to take its place in producing peptone, and ptyalin has its amylopsin, so that starch could be utilized even if the production of either should become defective, or cease. In spite, however, of this compensatory trait of our make-up, derangements are possible of a most serious character, by the imperfection inherent in such substitution.

AMONG THE EDITORS

THE BICYCLE CONTROVERSY

The question as to whether the effects of cycling be healthful or injurious, either or neither, is still unsettled in the professional mind, and some of the big medical journals are devoting valuable space to the controversy.

Truly "art is long" when a question of one single variety of athletic sport, to which every sound and sane member of civilized society between the ages of 5 and 85 is devoted, gives rise to more controversy than the etiology of a pandemic, and with much less satisfactory results.

The Boston *Medical and Surgical Journal*, 29th ultimo, thus comments upon a recent editorial in the New York *Medical Record:*

"There is still doubt in some quarters of the value of the bicycle as a means of promoting health. The New York *Medical Record* of July 17 discusses the matter editorially, apropos of an article on 'The Hidden Dangers of Cycling,' by Dr. Shadwell, who has previously written on the same subject. His view is a gloomy one, and would tend to consign the bicycle once and for all to disuse, at least so far as women riders are concerned.

"No doubt a difference of opinion on the subject is still, and always will be, justified; but it will require many more statistics than are yet available to persuade either the medical or the general public that the disadvantages of wheeling outweigh its manifold and evident advantages. Individual cases must certainly be judged on their merits; and common sense here, as in all other matters, must determine the point beyond which riding ceases to be an advantage. That its value is decided in many cases, no one with experience will now deny; that it is an abused form of exercise among some of its devotees everyone is willing to admit; but no further generalization seems at present possible.

"The writer in the *Medical Record* makes the dogmatic statement that 'any valvular disease should be an absolute bar to cycling, as the heart is the organ principally exercised.' This is undoubtedly a very safe position to take. At the same time, it is rather amusing to turn to another journal, the *Deutsche medicinische Wochenschrift*, and find that Dr. Siegfried, of Berlin-Bad Nauheim, reports a number of cases where the bicycle was used as the method of cure; in one patient we find the statement 'arteriosclerosis, marked arhythmia cordis'; and in another 'cardiac insufficience.' Of course, Dr. Siegfried makes his patients understand that it is 'curgymnastik, aber keinen sport.' We ourselves know of a physician who is blessed with a double aortic murmur, and yet does the traveling necessary to a large practice on his wheel, and has done so for several years past." —*Amer. Pract. and News.*

MEDICAL CONGRESS

The World's Medical Congress, which will convene in the Imperial city of Moscow early in August, will be the largest and probably the most important gathering of medical men the world has ever seen. Every civilized country in the world will be represented in its councils, and in the discussions we shall be much disappointed if, in the concentration of thought, the rigid analysis of facts and the vast amount of learning which will be brought to bear upon every department of our profession, conclusions are not reached which will do much to do away with the angry conflict of theories by a better understanding of terms and a clearer apprehension of the process through which results are obtained. Possibly in the light of the present age some better names can be found for the dogmas of contraria and similia than those which now prevail. That of the former has long since been dismissed as illusionary; the latter, by the great majority of the strongest representatives of the practice, of which it is the motto, believe it unwisely chosen, failing to represent the curative action of remedies or the depth and breadth of the philosophy of Hahnemann. And yet it seems to us, however little we know of the action of drugs, of the process of disease and cure, Hahnemann struck the key-note of a scientific philosophy and of a sound therapeutics in the dual action of drugs, the pathological action foreshadowing and leading up to the curative action; in divesting drugs of their crudities and developing their full vital force, in the full recognition of germ-life and its irritating, paralyzing action upon the vital forces. The key-note of asepsis which has changed the surgical and medical practice of the world, calling a halt to the onrushing tide of death, was struck by Hahnemann, and was one of the most important features of his philosophy.

Realizing the fact that putrefaction of animal or vegetable matter was the result of a fermentation dependent on micro-organisms, filling the air with invisible agents of mischief and developing in the human body in the form of bacteria the deadly virus of disease, and that these poisons would find their way into the body through any breach of the surface or natural opening, Hahnemann insisted upon giving his patients sunlight and fresh, pure air, freed from the contamination of fermenting substances, with ablutions of pure spring-water or that which had been distilled. Here was a full recognition and the utilizing of a principle followed out by Lister, Pasteur, and their followers, until, with anesthesia, it has driven away to a certain extent the shadow of death from the operating-room and deprived the knife of its former terrors. It will not be denied that asepsis has done more during the past half-century to clip the wings of death, to give hope to the dying and relief to suffering than any other measure, and that it is one of the grandest triumphs of the Victorian era, which has been so full of the practical results of scientific thought.

If the Elizabethan era can justly be called the age of literature, the Victorian era can as justly be called the age of science, in which the thought and culture of the past centuries led up to and prepared the way for the triumphs of the present. The time is past in which the wrangling of little minds leave their stamp upon the pages of history. From out of the struggles, the mistakes, the follies of the past, broader, stronger, clearer intellects have been evolved, in which a recognition of the brotherhood of man in the great field of scientific investigation is more fully recognized. The lines of experiment are followed by the great minds of the present day, not to build up theories, but to reach facts, analyzed and blended together with judicial fairness, so as to best develop and utilize the forces of nature. These are the minds we believe which will control the Medical Congress, and the results of their deliberation will bind in a stronger union the better elements of our own profession. The convention includes not alone the representatives of a single school, but the learned representatives of all schools will mingle together in council. Already 7,000 delegates have signified their intention of being present, so that at the time of the meeting there will probably be at least 10,000 medical men gathered in the Imperial city of Russia.—*Medical Times.*

AN ORGANIZED MEDICAL PROFESSION

At some seasons of the year the doctor's mail is well sprinkled with invitations to pay his money and take his dinner with some medical club or clan, for the cultivation of one or another of the branches of the professional tree, or for good-fellowship. So that the statement which we made at starting, that ours is an organized profession, is very evidently true. Now with over a hundred thousand physicians in the United States, and with these men in the ranks or within reach of these numerous organizations, is there any good reason why there should not be concerted action upon questions affecting the domain of medicine?

Considering, in this connection, the influence wielded by physicians in every community and in every household and every social circle in the land, is there any reason why the profession should endure from year to year the sight of quackery rampant and ignorance triumphant? Is there any good reason why, if we want adequate legislation on the practice of medicine in every State, we should not have it? If we are really in earnest about wanting a national department of public health, why not have it? When it comes to such questions as that of anti-vivisection the profession might, if it would, bury the whole lot of nonsensical, morbid, sentimental rubbish under an irresistible avalanche of scientific facts and true and sane broad-minded philanthropy.

The fact is the medical profession has never awakened to a sense of its own power, social, political. It talks, now and again, about reforms and complains continually of this or that evil which ought to be removed. But its objections and its efforts to right the wrong are as the querulous petulance of puny childhood to the might of gladiatorial manhood when compared with what might be done if the profession earnestly aroused itself to make an effort.—*Cleveland Med. Gazette.*

THE PROFESSIONAL SENSATION OF THE CENTURY

For time out of mind, doubtless, the physicians of America have heard of the dissensions in the St. Louis fraternity, but it has generally been ascribed to a preponderance of jealous Teutons, and no serious attention paid to it. If we had been told that there were so many men in the medical profession in the country at large playing the rôle of hypocrites, betrayers, and sneaks as seems to be shown in late reports, we would have refused to believe it. But to even the most biased there are times when they must yield or bend the knee to the overpowering and invincible logic of truth. We do not urge the procurement of the article from any personal bias for Dr. Lanphear, for with him we have but slight acquaintance, and if we were selecting an ideal, really he might not just now be our model. But "when doctors disagree the devil gets his due," and when a house is divided against itself we are sure to get an inside view. In this article Dr. Lanphear has thrown a searchlight on and ripped a dagger into the professional ermine of his city. He selects about fifty of the leading physicians of his town and adduces proof to show that, in comparison with the pretenses of their daily lives, they are stinking sepulchres and charnel-houses. The Doctor shows up the illicit methods of surreptitious advertising in the daily press by those who at the same time profess to "disapprove" it. He proves beyond doubt that college hospitals and dispensaries are there organized only to give advertisement and notoriety to the attending doctors, rather than subserve the aims of science; he publishes the names of physicians hitherto supposed to be gentlemen, connecting them with the practices of modern Judases and confidence-men; he shows how supposedly erudite ethical disciples of Galen profit by dishonorable practices, and clandestinely have even runners and cappers patrolling the surrounding States to send them business. The Doctor simply takes the skin clear off of the lodge-doctor, or fifty-cents-a-month fake, and knocks over the frail shanty hiding the deceptions of the twenty-five-cents-a-week hospitals, and hangs the hide up to view. If half that is shown in the article is true, St. Louis should be spurned as a medical faro-bank by every physician who loves decency and human honor. This is the exposé of the century, and it is so fully substantiated by proofs that it will be as one of the labors of Hercules, it would seem, for anyone to controvert it. Let the good work go on, the truth in the end will prevail, and when men are made afraid to deceive the profession will be enhanced in the estimation of the world.—*North Amer. Med. Review.*

POLITICS AND THE MEDICAL PROFESSION

There are several methods whereby medical men can influence their administrative and legislative servants: 1. The first and most important is by corporate action, resolutions, committees, etc., through medical societies. Strange as it may seem, this, by some physicians, is considered unprofessional and *ultra vires.* The very thing we should do, that precise method of making our influence felt which is most effective and most imperatively demanded is, wonderful to say, actually the thing at which we balk and stop. No matter what disgrace to medicine may be threatened, no matter how clear the professional duty that confronts us, there are to-day not a few of the so-called leaders—professional tories and aristocrats, they might be termed—who say, "Oh, yes! It is all a miserable shame, but *non possumus!* Our organization gives us no right or power to go into politics." Bah! This is the voice of laziness and cowardice; it is not the way of scientfic advance or of the cure and prevention of disease. Medical societies have not only the right and power, they have the inobviable duty laid upon them, shirk it and deny it as they may, to make their influence felt in all public questions relating to the public health. The work of the British Medical Association and of its parliamentary and other committees in eradicating abuses and in instituting reforms, gives the lie to our pusillanimity and, by example, illustrates what may be done by men whose motives are pure and whose bravery puts their motives into action. Every American medical society, from the smallest to the largest, is under the most stringent obligation to make matters of the public health its most direct concern.—*Jour. Amer. Med. Asso.*

THE ABUSE OF MEDICAL CHARITY

It will not do to conclude, because a man wears diamond shirt-studs or because a woman has on an expensive and fashionable sealskin gament, that he or she is imposing upon us; and it will not do, on the strength of appearance only, to cross-question or to set a detective at work, unless, indeed, we are willing to take the risk of inflicting unbearable humiliation upon the subject of our investigation. With all this difficulty in the way of a just discrimination between the self-respecting and well-meaning unfortunate and the persistent "bummer," it is better that some of the undeserving should be served without question than that one of good character should be put to pain by an inquiry into his means.

There is one thing, however, that can be remedied and ought to be at once. We mean the nominal charge made at some of the hospitals and dispensaries, the "dollar-a-month" treatment and the charge of a few cents for each prescription filled. It engenders in the applicants for medical aid the feeling that they have paid adequately and are entitled to be as exacting as they please. Moreover, with all our willingness to work gratuitously for the poor, we do not feel called upon to work for pay, however inadequate, rendered to an institution in the management of which we have no voice. The imposition of these petty charges for the alleged beneficent effect of relieving the poor man's mind of the galling thought that he is dependent on charity seems to us unwise; we know of no good reason why charity should be masked, why it should not be acknowledged.—*New York Medical Journal.*

THE APOTHEOSIS OF SELF-CONCEIT

Why, indeed, should any man be content to be modest, when egotism, self-conceit, and self-assurance are able to reap such a bountiful harvest, both in wealth and fame? It is not to be supposed that any well-educated and well-equipped physician shall be satisfied to gain a standing in his own community and to acquire that "hire" of which every good laborer is said to be worthy, by the long, slow process of allowing his work to be his recommendation, when false pretense, hypocrisy, and deception are always so abundantly regarded. Why should any man with a single spark of ambition be happy in being a patient plodder, crowned with honesty, when by being a charlatan and fraud he can stand among those whom the world delights to honor, both because of his fame and his wealth?

Does it pay to study and strive to become an educated physician when ignorance, skillfully concealed by self-praise and effrontery, always gains a man a great reputation? Does it pay for the young physician to be conscientious and honest, when chicanery and specious pretense gather the shekels and the praise? Does it pay to settle down in a community and attempt to build up a practice among friends and neighbors—at home where your character and your every act is open to judgment, and where the consequent responsibility for your acts is ever pressing and not to be avoided—when by being a blatant, showy, wandering mountebank, irresponsible and often dishonest, you may sit in the seats of the mighty? Why should anyone be satisfied to try and typify "the still waters which run deep," when the shallow, noisy, babbling sort of stream attracts so much attention?—*Journal of Medicine and Science.*

SELECTED PAPERS

THE RAPIDITY OF ABSORPTION AND ELIMINATION OF SOME COMMONLY EMPLOYED DRUGS AS A GUIDE TO THEIR ADMINISTRATION*

By H. A. HARE, M.D.,

Professor of Therapeutics in the Jefferson Medical College of Philadelphia

THE knowledge of the effects of drugs upon the human or animal organism is a *sine qua non* of successful therapeutics of a rational type, and its importance is so great that any argument in support of a closer study of the action of remedies is useless. Too often, however, we study the effect of the drug upon the different organs upon which we wish it to exercise a particular influence and ignore its influence upon the organs of absorption and elimination, although the speed and manner of absorption and elimination should govern our dosage, as to size and frequency. The direct influence of the remedy as it passes through the absorbing organs and those of elimination may be great.

A study of modern medical literature reveals a distressing lack of attention to these points, and we find careful practitioners ordering drugs which are slowly eliminated very frequently in twenty-four hours, and drugs which are rapidly eliminated very seldom in twenty-four hours; with the result in the latter instance of practicing what an eminent therapeutist has called "kangaroo therapeutics," viz., a great effect of short duration at long intervals. Thus to give dilute hydrocyanic acid three times a day for the relief of cough will produce a sedative influence of a powerful character, which will last at the most but a few minutes and leave the patient unmedicated for several hours; and the use of ammonia as a stimulant in a similar manner is equallv futile. On the other hand the frequent administration of digitalis or the bromides is unnecessary, for these drugs are so slowly absorbed that the system receives a gradual dose, so to speak, and they are so slowly eliminated that if the doses are frequent the drugs simply accumulate in the body and produce an excessive effect.

All drugs cannot be arbitrarilv divided into those which are slowly and those which are rapidly eliminated, but some drugs do lend themselves to such a classification, and some of those which are slow of absorption are slow of elimination. It is because drugs which are slowly eliminated are frequently given too often in twenty-four hours that the so-called "untoward effects" of many of them are developed; and in reality a large number of drugs produces a cumulative effect, although this term is usually applied to the effect of the excessive use of digitalis. The difference in the effect of digitalis when it accumulates is that some change in the position of the patient may bring on the symptoms suddenly, and therefore a greater impression is made on the mind of the physician and perhaps on the body of the patient.

The reliable information that we have as to the absorption and elimination of drugs is by no means as complete as is desirable. No part of pharmacological study is more neglected. In many instances no studies as to the elimination of important remedies have been made. In other cases the drug is so completely destroyed in the body as to prevent any estimation of its presence in the urine, as for example in the drug digitalis; and again in some instances the methods of testing for the substance in the eliminative secretion cannot be relied upon. I trust at some future time to present original studies on this point, but at present I shall only gather together for your consideration the facts already scattered through some of the literature.

Of the mineral drugs which are rapidly absorbed and eliminated we find the following:

The iodide of potassium is absorbed and eliminated so rapidly when taken by the empty stomach, even in so small a dose as three grains, that it appears in the saliva and urine in from ten to twenty-five minutes, usually in about fifteen minutes. It does not tend to accumulate in the system to any great extent. Its rapidity of total elimination is apparently not so great as its speed of total absorption, for though it soon disappears from the stomach it appears in the saliva for about thirty-six hours afterwards. These results have been reached by a number of observers, but the figures given here are my own. Soullier asserts that the iodine appears in the urine and saliva in so short a time as five minutes, and this statement is endorsed by Desprez ("De l'Elimination de l'Iodure de Potassium par l'Urine," 1884). Doux states that thirteen minutes usually elapses before elimination begins.

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* From the *Therapeutic Gazette*, September 15, 1897.

Not only is the drug speedily found in the saliva, but the largest part of the dose taken escapes within twenty-four hours. About 80 per cent. escapes in this brief period, but on the other hand the drug remains in small amounts much longer than this. Ehlers (*Annals de Dermatolog. et Syphilog.*, 1890) states that this residual quantity is slowly eliminated over a period of five days. John Marshall found that 265 grains a day could be recovered from the urine of a patient taking 360 grains a day. There are several reasons why this result is reached. First, the amount eliminated by the urine does not represent that eliminated by the saliva, and probably tnere is also an elimination by the bowel, so that an amount considerably over that found by Marshall really escapes from the body, if the patient defecates or expectorates. On the other hand, one of the reasons why a certain portion remains uneliminated is that being eliminated in the saliva it is swallowed and reabsorbed. Then, too, it is probable that some of the iodine unites with the albumen of the tissues, forming slowly soluble albuminoid compounds of iodine, and so this quantity is delayed in the body.

It is evident, therefore, that in the use of iodide of potassium we should give it freely and frequently at first until the residual amount has reached its limit, when smaller doses may be given and given less frequently for the purpose of maintaining the iodine influence. That is to say, the drug should be given up to the point of tolerance, whatever that may be, and then a smaller dose will be sufficient to maintain its influence by replacing the albuminoid compounds as they are slowly eliminated. On the other hand, if the iodide is being given for the purpose of eliminating some poison, as lead for example, nere the dose cannot be greatly decreased, because in addition to the ordinary quantity eliminated a proportion is passed out as a double soluble iodide of lead. This theoretical objection seems to find support in the fact that after the syphilographer reaches the full effect of the drug he often cuts the dose down to what he calls the "tonic dose," and so maintains the constant alterative effect without disordering the functions of the body. If he does not do this the drug accumulates and causes chronic iodine cachexia, a state which it is important to avoid in a grave disease like syphilis, which depends for its relief so largely on the development of great vitality in the patient.

It is interesting to note in this connection that when we give iodide of potassium the iodine unites with the sodium in the blood and is so eliminated, whereas the potassium itself is more slowly eliminated; and as it has a depressing effect on the vital functions it cannot be ignored. This is illustrated in regard to another iodine compound by an experiment of Issersohn, who gave iodide of lithium hypodermically and recovered all the iodine in the first twenty-four hours, but not all the lithium for forty hours. The facts in regard to the iodide of sodium are such as to strongly commend it as a substitute in medicine for the potassium salt. I have already shown in one paper, as have many others before me, that potassium is a powerful depressant, while sodium is not. Again, when iodide of potassium is taken internally it is decomposed and iodide of sodium is found. The sodium salt, therefore, possesses great advantages, as it contains practically as much iodine as the potassium salt.

Iodine itself is properly used less than the iodides because it is irritant and more slowly absorbed, and seems to produce more irritation in its elimination than iodine derived from the salts named.

Bromide of potassium has been studied very thoroughly as to its absorption and elimination. It is absorbed rapidly and exceedingly slowly eliminated. Thus Rabuteau asserts that five minutes after it is taken it begins to be eliminated, and in ten minutes its presence is most manifest. Amory found one-half of the drug eliminated in twenty-four hours and one-third in the next twenty-four; but the important fact for us to remember, from a therapeutic point of view, is that the balance of this drug is perhaps more slowly eliminated than any of the common remedies, for Bill (*American Journal of the Medical Sciences*, July, 1868) found it in the urine two weeks after the drug had been stopped, and Rabuteau found it one month after. The same rule which was stated as governing the use of the iodides holds here, namely, that after the drug is once manifesting its full effect smaller doses will maintain its effects, and this is the method in which those neurologists who use it most generally employ it, namely, full doses for one week and then small doses only large enough to preserve the effects. Probably few general practitioners follow this custom.

It is manifest, therefore, from what I have said that the administration of either iodides or bromides in frequent small doses possesses no advantages and is apt to disorder the digestion and overload the organism with the drug. They should be given twice or thrice a day in full dose rather than frequently in small doses.

The rapidity of absorption and elimination of mercury depends to a very great extent on the variety of it which is given. The drug in some forms is so soluble, in others so insoluble, that very great delay in its elimination must often ensue because it is slowly absorbed. It will be futile in this brief paper to discuss the form in which mercury is absorbed. It is usually taught in France that the theory of Miahl is correct; this is that the mercurial preparations are transformed in the stomach and intestine into the bichloride, which in turn unites with the sodium chloride in the blood and circulates as a double chloride of mercury and sodium. In Germany it is taught that it forms an albuminate of mercury and so circulates (Henoch's theory), or that it forms a chloro-albuminate (Voit's theory). All theories as to the form of its absorption are open to grave criticism. As to the elimination of mercury, it is known to escape by every avenue of exit from the body—the urine, feces, sweat, tears, milk, and saliva. After a single dose the drug begins to be eliminated in about two hours according to Byasson, and is entirely gotten rid of in twenty-four hours. If, however, the doses are persisted in, it gradually accumulates in the body and is so slowly eliminated as to remain for almost indefinite periods of time, and is found deposited in all the organs. In other words, the doses of mercury ordinarily given are always large enough to produce cumulative effects. Thus while Blazer and Klumpke agree with Byasson as to the rapidity of elimination of a single dose, they find from an experimental study that the amount of mercury which can be eliminated by the kidneys for many weeks when the body is saturated with the drug is only one-sixteenth of a grain a day. It is evident therefore that after a full mercurial effect is produced it is well to decrease, as do most syphilographers, the dose of mercury, and only give enough to maintain the effect. It is also evident that their plan of using iodide of potassium every now and again to aid in the elimination of the residual mercury is advisable.

Antipyrin is rapidly absorbed from the stomach in a space of from fifteen minutes to half an hour, and begins to appear in the urine at this time; but Reihlen asserts that its elimination continues for from thirty-three to fifty-six hours after the last dose. It therefore should not be given in too frequent doses. In regard to acetanilid we have the assertion of Kumagawa that it is absorbed in half an hour and eliminated completely in twenty-four hours, so that it is not as prolonged in its effects as antipyrin.

Atropin and belladonna are, on the other hand, absorbed with extraordinary rapidity and equally rapidly eliminated in the urine. Harley asserts that elimination is complete in two hours. This drug may therefore be wisely given frequently. Aconite is also rapidly absorbed and destroyed by oxidation, so that its effects do not last for any length of time.

Arsenious acid is absorbed fairly rapidly, but eliminated very slowly indeed, chiefly by the kidneys and the sweat. It begins only after the lapse of fourteen hours and continues for sixty hours, and it is thought by some that the development of an arsenical rash is an indication that elimination through the skin is beginning. This drug ought therefore to be given at long intervals rather than in many doses each day.

I have called attention to these facts in regard to the absorption and elimination of drugs because I do not think that enough attention is given to this important subject when drugs are given.

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GASTRO-INTESTINAL TOXINS: THEIR CLINICAL SIGNIFICANCE AND THERAPEUTIC INDICATIONS*

By WM. ARMSTRONG, M.R.C.S., Buxton

THE fact that processes are always going on in our bodies, the products of which, by reason either of excess in formation or of deficiency in elimination, may become harmful to comfort, health, or even life itself, should arrest immediate attention.

The morbid manifestations of this condition are spoken of as "autointoxication," or "self-poisoning of the individual." Careful study of these processes throws much new light upon the causation of many chronic and intractable ailments, and encourages the hope that an increasing measure of success may attend our efforts to combat them.

Ptomains, formed from decomposed food-substances, had long been recognized as the cause of certain occasional cases of severe and deadly illness. It was not, however, until 1885, when Gautier demonstrated that poisonous bodies, to which he gave the name of leucomains, were formed from sound food during normal digestion (and in larger quantities and more virulent form if those digestive processes were interfered with), that consideration was given to the possibility of these obscure bodies being responsible for the genesis of many forms of confirmed ill health.

Gautier's researches showed that the animal economy was frequently poisoned by its own products. He pointed out that poisonous matters were being continuously formed by the decomposition of albumen in the intestinal canal during the process of digestion; and also in the blood and tissues by the metabolism which occurs during the functional activities of life. The normal products of digestion are poisons of considerable power; and if, through inadequacy of the organic functions, they reach the circulation in any considerable quantity, alarming or even dangerous symptoms occur.

Autointoxication may be either slight and transient, or severe and lasting. The most common form of all is, I consider, a daily storage of small quantities of noxious material which gradually deteriorates the nervous system, and disturbs the nutrition of the various organs of the body. Vital action is much more quickly interfered with through the accumulation of waste products within the organs than by any want of nutriment of those organs themselves.

The toxins developed in the human body are many and varied:

1. Alkaloids, divided into two groups:
   (*a*) Ptomains, formed from the action of bacteria, or of ferments, on the albuminoid substance of the dead tissues.
   (*b*) Leucomains, which are elaborated by the vital energy of the cells themselves.
2. The primary products of the albuminous decomposition of digestive ferments, such as peptones.
3. Acids—acetic, butyric, valeric, and sulphuric.
4. Ammonia and the ammonia compounds.
5. Leucin, tyrosin, indol, skatol, cresol, and phenol.
6. The salts of potash.
7. Bile-acids.
8. Biliary coloring matters, especially bilirubin.
9. Various gases, of which sulphuretted hydrogen is probably the most toxic.

All these are capable, under conditions of excessive formation or deficient elimination, of setting up a train of morbid symptoms without any organic disease being present.

The fact that self-poisoning more or less acute is not constantly present is probably due to two factors:

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* From the *British Medical Journal* of July 31, 1897.

1. The action of the liver, which seems to have the power, when in good working order, of destroying or modifying certain poisons and of eliminating others.
2. The antagonistic action of the poisons themselves.

The chief causes of excessive formation of these poisons seem to be:

(*a*) Defective action of the nervous system, leading to a failure of the processes of digestion, such as deficient or abnormal secretion of the various gastric and intestinal juices; or to torpidity of the muscular structures of the stomach and bowels, and a consequent loss of power to make the necessary movements. Then follow retention of food-products, and consequent fermentation and putrefaction.

(*b*) The taking of food in too large a quantity, in wrong form, or, as is most common, in improper combination.

(*c*) Gastric dilatation.

(*d*) Duodenal dyspepsia and atony.

(*e*) Atony of the large and small intestines.

Defective elimination and failure to burn up the leucomains in the blood by the aid of its contained oxygen are factors of great importance. The kidneys are by far the most important organs of elimination. Much dietetic unrighteousness is forgiven to the possessor of sound and active kidneys; they eliminate two-thirds at least of the solids, especially mineral matter; also urea, coloring, and odoriferous materials, but not gases.

Bouchard says that seven toxic substances are found in normal urine:

1. A diuretic substance, which is probably urea.
2. A narcotic substance.
3. A sialogenous substance.
4. A substance which contracts the pupil.
5. A heat-reducing substance.
6. An organic convulsive material.
7. An inorganic convulsive material, probably potass.

The liver possesses the important function, amongst others, of destroying the poisonous properties of peptones, ptomains, and other substances produced during digestion; and possibly, also, the toxic products of tissue-waste. Anything, therefore, which interferes for any length of time with its functions must cause more or less deterioration of the general health.

By the skin are eliminated water, salts in small quantity, carbonic acid, and some volatile fatty acids; and it is interesting to note that in many hypochondriacs fatty acids are eliminated more abundantly by the skin than in normal health. By the lungs are eliminated poisonous substances, such as carbonic acid, and also volatile poisons accidentally introduced into the digestive canal. The bowels carry off much toxic matter; this toxicity is due chiefly to potass and ammonia, and in a less degree to the union of organic principles, especially alkaloidal substances.

Cases of self-poisoning may be divided into two groups, acute and chronic. The first is represented by certain phases of typhoid fever and cholera, and by the more acute forms of uremia; the second, with which I am chiefly concerned at present, by the slower, but not less harmful, changes going on more or less hourly within the bodies of many of those around us.

I believe that autointoxication is an important factor in the causation of the following diseases:

1. Gout, especially the so-called latent and neurotic forms of that disease.
2. Rheumatism.
3. "Uric-acidemia" and oxaluria.
4. The nervous irritability attending dyspepsia, especially when gastric dilatation is present, and also the "sinking" feeling some two hours after food complained of by many neurasthenics.

And some forms also of the following ailments:

5. Rheumatoid arthritis.
6. Asthma and wheezing.
7. Vasomotor disturbances as cardiac irregularity and neuroses, false angina, pseudo-Raynaud's-disease.
8. Urticaria.
9. Tetany.
10. Migraine and insomnia.
11. Hypochondriasis, and even mental derangement.

With regard to gout and rheumatism Aitken says: "These diseases develop under the influence of agents generated within the body itself through the continuous exercise of its functions in the daily course of nutrition, development, and growth." A considerable experience of gout in its many and various forms has convinced me that in the majority of cases of that disease there is more or less self-poisoning present. And I would venture to submit that from this standpoint we can reconcile the apparently conflicting theories as to the cause of this disease, and also the diverse opinions (each strongly backed by clinical experience) held as to its proper treatment. For whether we incline to the view that gout is due to excess of animal food, to maldigestion of the carbohydrates, to the imprudent mixing of foods of different classes, or to the introduction of substances favoring fermentation, we can see how each of these factors may form toxic material, which (if we accept the recent and most able researches of Dr. Luff) in all probability passes on to the kidneys, where it forms uric acid, excess of which, reabsorbed into the blood, causes the phenomena of gout. For whether defective action of the kidneys, inactivity of the liver, dilatation of the stomach, nerve-strain, or want of exercise is considered the main contributing factor to the gouty diathesis, I would urge that any one of these conditions is capable of giving rise to a condition of autointoxication.

Dilatation of the stomach, a much more frequent condition than generally supposed, leads to the formation, amongst other toxins, of large quantities of acetic and butyric acids. Abnormal conditions in the duodenum cause increase of indol, which points to rapid decomposition and bacterial activity. Sulphuretted hydrogen is frequently formed in considerable quantity in the large intestines. It is a most powerful poison, acting upon both the nervous system and the blood, producing depression, headache, vertigo, and disturbances of sight and hearing.

To get exact indications through the medium of the urine is a most difficult matter, for many alkaloids can only be detected by chemical processes so long, complicated, and delicate as to make them of little use in clinical work. There is, however, a port-wine-colored reaction with ferric chloride which is frequently found in cases of gastric dilatation. Indican again can be detected in the urine by the chloride-of-lime test, or by the fact that it gives a purple ring with nitric acid; this shows the presence of indol in excess in the small intestine. In cases of fecal retention there is often a brown reaction with nitric acid, which Herschell found in over 50 per cent. of cases of this class. Sulphuretted hydrogen can be detected by the blackening of paper impregnated with acetate of lead as well as by its characteristic odor, and also by the change in the relative quantities of the normal and ethereal sulphates.

The therapeutic indications are important. I have seen remarkable results follow treatment acting upon the nervous system. It is through this that such factors as change of air and scene, visits to elevated inland resorts or to the coast act. I am convinced that in a large number of cases the true key to the position is to be found in the condition of the nerve-centers. The kidneys come next in order of importance, then the liver, the bowels, the skin, and the lungs. The vapor or hot-air-box bath is of great service in helping to carry off poisonous substances by the skin.

In typhoid fever Dr. Burney Yeo has had excellent results from the use of a solution of chlorine gas. Dr. Fisher, of King's Langley, has found the internal administration of izal of much service, while Dr. Headley Neale, of Leicester, has published a remarkable series of cases treated by the biniodide of mercury.

The drinking of hot water when the stomach is empty is a most excellent practice; it carries away with it much toxic material from the digestive organs, and ends by flushing out the kidneys.

The liver needs stimulation in most cases, and there is no better remedy than a single grain of calomel given every second or third night, followed by a full dose of the phosphate or sulphate of soda in hot water the next morning fasting; the calomel acts as a duodenal antiseptic. In a number of cases of fairly early deltoid rheumatism, where I have found indican in excess in the urine, the calomel has quickly removed both this substance and the pain at one and the same time.

The state of the bowels should be carefully watched. A saline aperient in the morning is an excellent routine practice, but if much atony be present small doses of aloin and cascara with strychnine and belladonna are indicated. If fecal retention is present, large enemata passed by means of the long tube into the descending colon are necessary.

In gastric dilatation many antiseptics have been tried; amongst others creosote, guaiacol, iodoform, carbolic, and sulphurous acids, and the sulpho-carbolates. Most of these possess the disadvantage of being unpleasant to take, and apt to repeat. I have found a weak solution of fuming hydrochloric acid (8 to 10 drops in 6 ounces of water) freshly mixed just before each meal, of considerable service. It is a most powerful antiseptic; half of the quantity named is taken in divided doses while eating, and the remainder at the end of the meal. Washing out the stomach is frequently useful in severe and obstinate cases; it immediately relieves severe migraine due to gastric dilatation.

When duodenal fermentation is present calomel and betol are the most useful antiseptics. Takadiastase in 2½ to 5 grn. doses, taken with meals, greatly assists the digestion of the carbohydrates. Salol sometimes causes unpleasant symptoms. The long-continued administration of salicylic acid affects the nervous system, and the salicylate of bismuth is not sufficiently powerful unless given with betol.

As an intestinal disinfectant it is desirable to use some drug which is only sparingly soluble, so as to pass uninjured through the stomach and duodenum; or to have it made into pills specially coated to resist the action of first digestive juices. In that case it often resists also all other efforts to dissolve it, and the drug passes from the body with its coating intact.

Bouchard recommends large doses of iodoform mixed with charcoal; but the former is both unpleasant and toxic. I have found napthaline much more useful and much less objectionable. It is not absorbed, and may be given in doses of from 4 to 8 grn. in cachet. I consider it a most valuable intestinal antiseptic. Methylene-blue is also of service in doses of 2 grn. two or three times daily; but the patient should be warned of the deep-blue coloration of the secretions caused by it. Charcoal fixes the coloring matter of the bile, takes up gases, and prevents the absorption of some of the products of putrefaction. It is a remedy of great value, especially when given in cachets.

The needle, or circular spray bath, is most effective as a nervine tonic, as is also the double mustard pack. This is made of mustard-bran, one portion being applied to the nape of the neck and down the spine, and the other over the stomach and liver, for from fifteen to twenty minutes every second day. It stimulates and strengthens the sympathetic nervous system, especially that portion connected with the process of digestion. The general faradization of Rockwell is also useful, especially when the hand of the operator is used as the labile electrode. This method, which I consider has not received the attention it deserves, has a most helpful influence in cases of nerve-failure. It is pleasant to the patient, and can be administered to the most delicate subject without causing weariness or exhaustion, and in most cases is followed by a feeling of greatly improved health. It may be conjoined with massage, which is indicated in many of these cases; for if we stimulate the nervous system by friction of its cutaneous branches, we obtain, in a reflex manner, quickening of the renal circulation, and, consequently, increased secretory activity of the kidneys.

Resisted Swedish exercises should not be lost sight of; for in the muscles the surrounding fascia forms a pumping arrangement; the two layers of which it consists are separated from each other at each muscular relaxation and pressed together at every contraction. The contained lymph and waste-products are thus pumped out of the muscles at each contraction, and are sent into the large lymph-spaces and lymph-channels. The movements of the abdomen and thorax in the act of respiration form a similar pumping arrangement, by which any excess of the serous fluid which bathes the intestines and the lungs is pumped out of the peritoneal and pleural cavities. These movements also indirectly influence the removal of waste-products from the brain and spinal cord.

When the brain is overworked and the respiration and muscular movements are underworked, the nutrition of the brain is diminished by the imperfect removal of waste-products from its substance. Its cells and fibers may also be poisoned by the circulation within the blood-vessels which supply them of noxious substances due to imperfect digestion and assimilation. The best remedy for this condition is to be found in bodily exercise; but no course requires so carefully prescribing in these cases as exercise. Excess in this particular at once causes a great increase in the amount of toxic products formed; and the difficulty is that so small an amount is in some cases excessive. Walking, cycling, and golf are all useful; but I have seen many patients (in whom all these caused increase of morbid conditions) completely cured by a course of saddle exercise.

Inhalation of compressed air or of oxygen decreases the toxicity of the urine, as does steady work or labor of any kind; while nothing is so bad as for a person to take little or no exercise for days, weeks, or months, and then suddenly to take violent or long-continued exertion for a short period. Such a course almost invariably causes great increase of toxins in the system.

In uremia, baths of dry hot air are often of great use, given in bed by means of Arnold's apparatus. I have often seen children rescued from the jaws of death by this means when constant vomiting, suppression of urine, and convulsions were present. Bleeding should not be lost sight of as a remedy in this complication, for we are told on good authority that we can remove from the system a greater proportion of extractive by bleeding than by any other channel, the renal tract excepted. We should also try to obtain intestinal antisepsis, should use inhalations of oxygen, and act freely upon the bowels.

The question of dietary in autointoxication is of the utmost importance. Excellent cures are reported where red meat has been absolutely forbidden, and equally excellent ones where nothing but red meat and hot water have been taken. In amylaceous dyspepsia, with or without gastric dilatation, a meat dietary is often efficacious.

When evident putrefaction is taking place lower down the alimentary canal, or where premonitory symptoms of uremia are present, then a strict dietary of milk, koumiss, and farinaceous foods is indicated. Alcohol should be avoided as much as possible, especially in the form of spirits. When actually needed, I find most useful (unorthodox as it is) a glass of sugar-free champagne, or one of port-wine thoroughly matured in the wood, taken with food only. Above all, the mixing of different classes of food at one meal should be avoided. In gastric dilatation the meals should neither be too frequent nor too bulky, and fluid should be taken in as small a quantity as possible with food, the necessary fluid being taken one hour before meals.

Notes on the Treatment of Syphilis

Dr. Leslie Phillips (*Brit. Jour. of Derm.*, May, 1897) gives some excellent formulæ for the treatment of syphilis, affecting various parts of the body.

For syphilide of the nares he recommends the following:

Menthol	5 grn.
Ung. Hydr. Oleatis (20 per cent.)	2 dr.
Ol. Amygdalæ Dulc. ad	1 oz.

To be used as a spray.

For syphilitic alopecia. If the defluvium is not very rapid the scalp can be briskly rubbed with the following liniment:

Acidi Acetici	4 dr.
Glycerin	2 dr.
Aquæ Coloniensis	1 oz.

M. Ft. Linimentum.

In tertiary syphilis of the palms and soles with hyperkeratosis or parakeratosis:

Resorcinol	10 grn.
Ung. Hyd. Oleatis (10 per cent.)	1 oz.

will be found useful in old syphilitic ulcers of the leg attended with much periosteal thickening, and lead will be of benefit with the addition of oil of sanitas as a valuable deodorant of the discharge. S.

To Increase the Solubility of Borax

The addition of a small amount of sugar greatly increases the solubility of borax. It will also rapidly liquefy a solution of gum arabic which has become gelatinous from the presence of borax.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Joseph P. Winston, M.D., George E. West, M.D.,
W. J. Robinson, M.D., L. Schöney, M.D.

Liver-cells and Jaundice

By the aid of injected and safranin-stained miscroscopic liver-preparations, Dr. C. Nauwerck (*Munch. med. Woch.*, XLIV, 2; ref. *Schmidt's Jahrb.*, Bd. 254, p. 125, 1897) demonstrated: 1, that the secretion-vacuoles of the liver discovered by Kopffer do not form the terminals of the bile-channels, but that the liver-cells are filled with a fine canal-reticulum surrounding the nucleus, and that this reticulum is continuous with the intercellular bile-capillaries; 2, that an injection of the liver-cells is possible by way of the blood-vessels, since a dense network of blood-capillaries surrounds the nuclei of the liver-cells.

From these results the author formulates a new theory in reference to congestion-jaundice: In entering the blood-channels it is not necessary that the bile should go by the route of the thoracic duct; admission to the blood may occur in the liver-cells themselves by diffusion from the bile-capillaries surrounding the nuclei into the neighboring blood-capillaries.

Pyloric Cancer

Dr. Theodore A. McGraw (*Physician and Surgeon*, Vol. XIX, No. 6) read an article with the above title before the Michigan State Medical Society, in which he deduces the following conclusions:

1. The operation of pylorectomy can never yield its best results until general practitioners become alive to the necessity of making early diagnoses in these cases and urging their patients to early operations. All surgeons of great experience in this line have come to the conclusion, that no further advances can be made in the operative treatment of cancer of the stomach until the surgeons secure the cordial and hearty cooperation of the general profession.

2. Whenever an adult begins to complain of indigestion to which he has not been accustomed and which does not yield to treatment, and when no rational cause can be assigned for the malady, the physician should always think of cancer. The older the person the more probable it is that such a trouble may be malignant disease.

3. If with indigestion there come emaciation, pain, hemorrhage, and a tendency to vomit undigested food, hours or even days after it has been eaten, the diagnosis of some form of pyloric stenosis becomes nearly established.

4. It is the writer's judgment that a gastro-enterostomy on an individual not yet exhausted by disease is not a very dangerous operation.

5. The operation of gastro-enterostomy when successful prolongs life not only by relieving obstruction, but also by preventing the stimulus to cancerous growth consequent upon continued irritation. Its immediate effects are such as to warrant its adoption in all cases where pylorectomy is not justified, but it should never be substituted for the more radical though dangerous operation. V.

Tuberculosis and Malignant Disease

Dr. T. N. Kelynack (*Med. Chron.*, Vol. VII, No. 3) formulates the following conclusions:

1. Conditions of impaired nutrition brought about by toxic bodies of external origin, or by agencies arising from, or associated with, certain general or local conditions of the body, may be important influences making for tuberculosis.

2. Various views have been expressed as to the relationship of tuberculosis and malignant disease—(a) that there is a natural antagonism between "tubercle" and "cancer;" (b) that the subjects of malignant disease have been more predisposed to tubercle than "general" cases; (c) that malignant processes predispose to the invasion of the body by the tubercle bacillus.

3. An analysis of recent Manchester cases tends to show that the subjects of malignant disease have not been more subject to tuberculous processes than is the case with "general" cases, and that malignant disease has little or no influence in reviving latent tubercular processes or predisposing to fresh infection. V.

The Specific Action of Quinine in Malaria

Dr. E. C. Register read a paper with this title before the North Carolina Medical Society (*St. Louis Medical Era*, Aug., 1897).

After many years of study, both clinical and microscopical, the doctor arrives at the following conclusion in reference to the specific action of quinine in the continued forms of malarial fever. He says a malarial fever without complications will subside after the plasmodium of malaria disappears from the blood; that we have in quinine the means to eradicate completely malarial poison from the body; that malarial fever occurring in a previously healthy subject, and in the central United States, if at once recognized and properly treated, never ends in death; that it is speedily curable, never continues, provided the nature of the disease be recognized and appropriate treatment employed.

Dr. Register has made microscopical examinations of the blood of several hunderd patients suffering with remittent malarial fever, and has studied closely and thoroughly the crescentic and ring-shaped bodies which he says are the forms of the parasite which is responsible for the combined types of this fever, and he finds that the reason quinine does not always affect these irregular forms of the poison is on account of the usual defects in its administration. He contends that the drug is very imperfectly absorbed when given by the stomach, and when the patient has a temperature of over 102 degrees. He says that in cases of continued malarial fever, if distinct and well-marked intermissions of the fever are produced artificially by the use of antipyrin, antifebrin and phenacetin, the crescentic and ring-shaped bodies will disappear after the administration of quinine, as quickly as the spherical bodies that are found in an ordinary case of intermittent fever. In reference to the belief that the forms of the parasite that inhabit the blood-cells are not acted on by quinine, he says: "There is no doubt in my mind that this belief is not erroneous. Besides my own observations, I have been able to collect the opinions of thirty-two authors touching upon this point, and twenty-eight out of the thirty-two believe tnat the endo-globular or intra-corpuscular forms are not, on this account, tne cause of an uncontrollable fever, and that the proximity of the parasite to the blood-cell does not, in any way, protect it from the action of quinine."

A Case of Tropical Abscess of the Left Lobe of the Liver with Unusual Symptoms

Dr. Dreschfeld (*Med. Chron.*, Vol. VII, No. 3) formulates his remarks as follows:

1. Abscess of the left lobe of the liver is much rarer than abscess of the right lobe.

2. The course of the disease was acute, the first symptoms (pain in the region of the liver) occurring only about ten weeks before the death of the patient.

3. Absence of rigor occurs usually only in those cases where the abscess is chronic, and where there is very little pyrexia.

4. Where the pyrexia has a distinct intermittent or remittent type the rigors are usually present.

5. The abscess, especially the part which has invaded the thorax, appears to have formed very rapidly during the last few days of the patient's life, as was shown by the physical signs. These signs, it is interesting to note, were extensive dulness in percussion, tubular breathing with increased vocal resonance, increased vocal fremitus and whispering pectoriloquy—signs which are not usually connected with extensive accumulation of pus either in the pleura or lung.

6. That the abscess-cavity was not reached by the various exploratory punctures, though these were made with long and wide trocars, is explained by the position of the abscess, which had not reached the posterior surface of the lung.

7. The patient's weak and exhausted condition prevented us from recommending further operative procedures to reach the abscess-cavity.

8. The abscess was, no doubt, also the cause of a limited pleuritic effusion which was noticed early in the disease, but this effusion of serous fluid rapidly subsided, for the repeated punctures at a later period gave negative results, while at the post-mortem examination no trace of fluid could be detected in the pleura. V.

The Influence of Drugs Upon the Secretion of Bile

In a recent number of the *Joural of Experimental Med.*, Dr. Franz Pfaff has reported at length the experiments made by himself upon a woman, aged 38, who after an operation acquired a biliary fistula. The investigations, contrary to accepted ideas, go to prove that no drugs have any influence upon the secretion of bile. The only substance that had a marked effect upon the secretion was the woman's own bile inspissated and made into pills. The injection of these pills increased the flow of bile from about 500 c.c. in twenty-four hours to 700 c.c. When the bile was no longer administered the quantity of bile secreted decreased to 449 c.c.

Calomel and corrosive sublimate had no effect. Salol caused a very slight increase. K.

Five Successful Cases of General Suppurative Peritonitis Treated by a New Method

Dr. J. M. T. Finney in *The Johns Hopkins Hospital Bulletin*, Vol. VIII, No. 76, states that observers who are dealing with a more or less healthy peritoneum, agree that it is able, under favorable conditions, to take up a relatively large amount of infectious material and dispose of it effectually. On opening the abdomen, according to the observations of Pawlosky, the lymph-channels leading from the peritoneal cavity are choked with infectious bacteria and inflammatory products in purulent peritonitis, and that thus the efficiency of the peritoneum would be greatly impaired. The author's observations, clinically, seemed hardly to bear out this.

It seemed to the author that the peritoneum was inadequate and did not remove a sufficient quantity of the exudate.

With this idea in mind a plan of treatment was devised, which, so far as the author knows, has not been employed elsewhere.

The steps of the operation are as follows, viz.:

1. A long incision to admit of easy access to all parts of the peritoneal cavity.

2. Quickly withdraw coils of small intestine, beginning with the worst coil first. Remove all, or as much as necessary, of the small intestine and place it outside the abdomen, covered with warm gauze or towels, thus practically disemboweling the patient for the time being.

3. Then systematically and thoroughly wipe out the peritoneal cavity with large pledgets of gauze wrung out of hot salt solution, paying particular attention to the pelvic portion. In some cases is may be well, in addition, to flush out the cavity with warm salt solution, but this is rarely necessary.

4. Next, the small intestine should be systematically examined, loop by loop, while still outside the abdomen, and rendered macroscopically clean by wiping with gauze compresses wrung out of hot salt solution. It is necessary to wipe with considerable force at times, in order to remove adherent flakes of partly organized lymph. It should be done thoroughly and conscientiously, however, as upon this depends the success of the operation. It facilitates the cleansing process, as well as lessens the shock of the operation, if the wiping of the intestinal coils is carried on under constant irrigation of warm salt solution.

5. After being cleansed macroscopically of all foreign material, pus, feces, lymph, etc., the intestine should be replaced in the abdomen, the worst or sutured coil being the last, or most superficial, in order that it may be better drained by being packed about with gauze, if necessary.

6. The abdominal wound is then tightly closed, leaving just room enough between two sutures for the gauze drain. If there are any evidences of distension or pain the abdomen should have the Paquelin cautery thoroughly applied, and the bowels moved early by calomel in broken doses, followed by salts and a turpentine enema.

7. It is not claimed for this method that it will cure every case of general suppurative peritonitis. The author believes, however, that a larger percentage of cases will recover after this method than any other with which he is familiar.

8. To insure success with any method it is essential that the operation should be performed within a few hours after the perforation has taken place. V.

Treatment of Uncontrollable Vomiting

The *Journal des Praticiens* (Jan. 9, 1897) recommends the following treatment:

Menthol	2 grn.
Hydrochlorate of Cocain	4 grn.
Alcohol	2 oz.
Syrup	1 oz.

A small teaspoonful every half-hour until several doses are taken.

The following may also be used in case of the vomiting of tuberculosis:

Menthol	4 grn.
Syrup	5 oz.

Shake well before using and give from two to three teaspoonfuls at short intervals after each meal.

According to Ferrand in some cases of spasmodic vomiting it is useful to apply the following solution to the pharyngeal wall by means of a cotton compress:

Bromide of Potassium	75 grn.
Glycerin	2 oz.

Such an application should be made after each meal to diminish the sensibility of the pharynx. M.

The Diagnosis of Gastric Cancer

Dr. Thaddeus H. Walker (*Physician and Surgeon*, Vol. XIX, No. 6) arrives at the following conclusions:

1. The pain, nausea, deranged appetite, constipation, and vomiting are at first not different from those of chronic gastritis, though in a patient over 35 we may expect carcinoma from these insidious symptoms.

2. Food, especially meat, becomes distasteful; with the increasing stenosis of the pylorus, vomiting becomes more frequent, pain more severe. Finally we have the "coffee-ground" vomit, due to disorganized blood, soon followed by cachexia, anemia, etc.

3. By use of a small rubber tube we can obtain samples of the gastric contents. The best meal should consist of food which will in no wise interfere with the digestive processes, or whose constituents will interfere with the tests. A baker's roll and a glass of water is as simple as we can make a test meal, and fulfils the requirements.

4. About one hour after the test breakfast, we may introduce the stomach-tube. With tube in the stomach the patient is

asked to bear down with the abdominal muscles (Ewald's expression method), and easily obtain enough fluid for analysis; the amount will indicate the muscular activity of the stomach. A large amount, one hundred cubic centimeters and over, indicates atony of the stomach, a condition progressing rapidly with carcinoma.

5. First filter the stomach-contents and test the filtrate with litmus-paper as to its acidity. This will give us the total acidity due to inorganic or organic acids and acid salts. We now wish to test for free hydrochloric acid, and have numerous tests we can apply for quick practical purposes; Congo paper (red, turning blue), tropælolin-paper (yellow, turning brown, and by gentle heat lilac), or a very delicate watery solution of methyl-violet, turning sky-blue in the presence of free hydrochloric acid.

6. We now look for lactic acid and use Uffelman's or Boos' tests. The presence of large quantities of lactic acid is to-day considered one of the principal diagnostic signs of carcinoma. We find lactic acid many times very early in the course of the disease, but often it does not appear until the later stages.

7. Lactic acid is not of itself pathognomic of carcinoma, as it may be present from secretory and motor inefficiency.

8. With no tumor palpable and other evidences (absence of free hydrochloric acid, presence of lactic acid, and characteristic physical signs) enough to weigh the balance in favor of carcinoma, we can safely make an exploratory laparotomy which may reveal conditions favorable for the surgeon's knife. V.

Pericarditis; Some Points on Its Diagnosis and Treatment

Dr. Frederick C. Shattuck, (*Boston Med. and Surg. Jour.*, July 8, 1897) in a paper read before the twelfth annual association of American Physicians, gives the following points in regard to treatment:

At the outset he confesses scepticism as to the value of therapeutic measures other than *rest*. Morphine should be used freely if pain demands it. The condition of the circulation is regulated by alcohol and digitalis. The author never uses blisters, believing that they interfere with a careful study of the case. The ice-bag is used when grateful to the patient. He discusses at length the value of tapping in pericardial effusion and evidently takes the middle ground in regard to the value of it. "Each case must be determined upon its merits. If the diagnosis of considerable effusion seems sure, if the breathing and circulation show danger-signs, and if the patient be not under close supervision, I believe it is safer to puncture." Continuing, the writer says, if the case is an uncomplicated one and the *effusion* only seems to threaten life, interference should be the rule. The instrument preferred for the operation is the small trochar and cannula attached to an aspirator with a side-switch. Adhesions within the sac can be broken up with this instrument, by moving it in several different directions. The point of election for introduction of the point of the cannula, in the reported cases of the author, are tabulated as follows:

Fourth left	Once	Fluid
Fifth left	Eight times	Fluid twice
Sixth left	Three times	Fluid twice
Fourth right	Twice	No Fluid
Left costo-xiphoid angle	Once, postmortem	Fluid

K.

The Physician and the Singer

Dr. Hanau W. Loeb (*Medicine*, Vol. III, No. 8), in an article entitled the "Physician and the Singer," concludes his remarks as follows:

1. Nasal respiration is imperative and all interference should be removed.

2. The physiological respiration and adequate air-power make inferior costal respiration essential.

3. The practitioner should pay attention to the general health and hygiene of the singer, insuring proper exercise, dress, and freedom from pernicious habits.

4. The details of instruction and practice should as far as possible be subjected to the scrutiny of the practitioner with the view of obviating practices which are in opposition to the normal action of the nose and throat.

5. A more general interest in the singer's life, his health, and progress will extend the voice, conserve the health of the singer and improve the value and the beauty of song all over the world. V.

Fatty Effusions Into the Great Serous Cavities

Supplementary to the 126 cases of fatty exudations observed by Bargebuhr, Dr. Rotmann (*Ztschr. f. klin. Med.*, XXXI, 1897; ref. *Schmidt's Jahrb.*, Bd. 254, 1897, p. 123) contributes 29 additional cases of effusion into the serous cavities, so that the statistics upon this subject now comprise 104 cases of fatty effusion into the abdominal cavity, 49 into the pleural cavity, and 2 into the pericardial sac. Of the effusions into the abdominal cavity, 63 were chylous, 21 chyliform, and 2 mixed forms; of those into the pleural cavity 27 were chylous, 13 chyliform; of those into the pericardial sac 1 was chylous and 1 chyliform. In the remaining cases the character of the exudate could not be determined. If the interpretation of Leydhecker is correct, according to which a relatively high sugar-content occurs in certain cases of ascites chylosis when the lymph-vessels of the liver allow the admixture of their contents with the exudate, then sugar should be found in chylous effusions which are caused by displacement or injury of the chylous channels above the ingress to the hepatic lymph-vessels, and be absent in all others. In sixteen cases in which statements as to the sugar-content were to be found and in which the seat of the cause was determined by autopsy, the findings spoke wholly in favor of Leydhecker's view. The statements of some authors to the effect that the detection of sugar is highly diagnostic of chylous exudates, are invalidated by the observations of the author and others who also found sugar quite frequently in serous exudates and transudates.

Periodic Hiccough

Feilberg (*Med. Times and Hosp. Gaz.*, No. 1013) describes the case of a man aged 42, who suffered for several months with periodical paroxysms of hiccough. He finally found at the base of the tongue, a tumor having three lobes, the central one being the largest and about the size of a hazel-nut. These growths were due to an hypertrophy of the lingual tonsil, and caused, in addition to the hiccough, a continual sensation of fullness in the throat. The palatal tonsils were also enlarged and were excised without producing any noticeable improvement. On the removal of the hypertrophied lingual tonsil, the hiccoughs disappeared entirely.

M.

Indications for Venesection

Dr. Albu, of Berlin, says that practically there are two conditions only demanding venesection: high arterial pressure with congestion of certain internal organs, and the accumulation in the blood of metabolic products or of foreign substances.

The first indication is met in cases of apoplexy in vigorous subjects, with signs of plethora. It may also be met in cases of epilepsy.

The second class of patients is met in those suffering with uremia. Bleeding is contraindicated in chronic interstitial nephritis with loss of compensation in the presence of feeble cardiac action and cachexia. It is an operation, however, which is to be recommended in the poisoning by the oxide of carbon and by illuminating gas and chlorate of potassium. In pneumonia its influence is not for good, unless the arterial pressure is very high or unless there is a tendency to pulmonary edema.

In young subjects bleeding is contraindicated should there be cardiac asthenia. In cardiac bronchitis, particularly that due to grippe, Albu thinks that free bleeding brings about excellent results. It also does good in case of bronchitis with bronchiectasis. He has even seen it of advantage in pneumothorax and in disorders of compensation, and in mitral stenosis. He believes that in myocarditis it must be used with prudence, and that it is contra-indicated in chlorosis, although sometimes bleeding, by stimulating the blood-glands, may prove useful.

M.

Hiccoughs Treated with Quinine

Dr. Luke Fleming gives an account in *Medical Record*, July 3, 1897, of a severe case of hiccoughs in a girl of 14 years, of good family history, in whom paroxysms continued for half an hour, and recurred the following day with increased severity. The doctor recollected that quinine given her on a former occasion for malaria had produced urticaria. He decided to give it now for its effect on the nervous system. For two hours the paroxysms were worse. At the end of that period, however, the 10 grn. administered had caused a severe urticaria, and the hiccoughs promptly stopped and did not recur. The author regards it as unwise to treat these cases with nerve-sedatives; he recommends nerve-irritants. H.

The Injurious Effects of Grape-skins and Grape-seeds

Dr. Arthur G. E. Naylor (*Australian Med. Gaz.*, Vol. XVI, No. 6) reports the following cases:

Case 1. A boy of 10 complained of pain in the stomach; temperature at time of consultation, 99° F. A dose of castor-oil and salts was administered prior to the visit, with no effect. Dr. Naylor examined the boy per anum and felt a hardened mass. Thinking it might be an accumulation of dry feces, he removed a portion with his finger. What came away was a small quantity of unaltered grape-skins and grape-seeds, matted together. He reintroduced his finger and raked out a saucerful of the same material. After an enema of water, the child had an ordinary stool.

Case 2. Was called to see a boy in great pain. The patient was lying on his back with his knees drawn up; temperature 104.54. A complete evacuation of bowels removed all symptoms and cause—a large quantity of grape-skins and grape-seeds.

V.

PEDIATRICS

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Defective Eyesight in Children

According to an editorial in *Pediatrics*, July 15, that eyesight is degenerating is universally acknowledged, and as a matter of course the eyes of children share in this degeneration. It is one of the conditions inseparable from our advanced state of civilization, and that this is so is proved by the fact that the eyesight of those leading a primitive life or of those who have been only receiving the benefits of education and progress for a few generations has suffered no or little injury. The intellectual activity of a people may be very fairly gauged by its eyesight, the higher the brain-development the worse the power of sight, and vice versa. A nation of students and bookworms as the Germans, shows an enormous percentage of sufferers from myopia, while on the other hand races existing in a more arcadian state, despite their bad sanitary conditions, supply but a very small percentage of such cases. Statistics bearing upon this matter are, as they are prone to be always, somewhat variable and conflicting. Dr. William Carhart found, upon examination of 1000 American school-children, 48.5 per cent. astigmatic, 44 per cent. hypermetropic, and 35 per cent. myopic. Dr. Frank Allport gives the average of myopics attending the public schools in the United States at 30 per cent., while the examination undertaken about a year ago of 8000 children attending elementary schools in London, revealed the fact that out of this number but 39.5 per cent. possessed normal sight; slight and moderate degrees of hypermetropia were found to be the most common defects, and myopia was comparatively rare. The point of most interest in these examinations was the large number of children who possessed only normal vision. From statistics, although not agreeing in all details. sufficient information may be gathered to emphasize the fact that in all civilized countries the number of children with defective eyesight is a very large one. These defects will be handed down to future generations, with what ultimate disastrous results it is impossible to foretell. Many of the causes of, or aggravating aids to, defective vision in children are not far to seek; they are badly lighted and unsanitary rooms, very small print, uncomfortable seats, faulty position, too long hours of study; all these details should be looked to, and the children's condition during school-hours be rendered as perfect from a health and comfort point of view as possible. The difficulty then occurs, how is defective vision to be detected? For the early correction of the refractive error, and especially of the astigmatic element, is of great preventive value. Dr. Allport's method of training school-principals and rendering them competent to detect and notify cases is worthy of consideration. There are countless numbers of little ones whose eyes are quite unfit for the close work they have to do, and are compelled to go through their daily routine in the best way they can, and any plan that can be devised to remedy this evil will be welcomed.

L.

Bronchiectasis in Children

Dr. Molle reports excellent results from the use of the following mixture in two cases of bronchiectasis (*Jour. des Praticiens*):

Eucalyptol	10 parts
Creosote	25 parts
Tr. of Benzoine	50 parts
Copaiba	80 parts
Expr. Oil of Almonds, enough to make	200 parts

Half a teaspoonful daily in a little milk is given by the rectum, gradually increasing to one or two teaspoonfuls.

M.

Summer Diarrheas in Children

In a communication to the AMERICAN MEDICO-SURGICAL BULLETIN Dr. M. Friedlander tells us he has used the following treatment, with success, in about 400 children affected with diarrhea:

Preventative: I advise mothers to keep the child and surroundings as clean as possible; cut the finger-nails once a week, wash all the exposed parts of the body, particularly the hands and fingers of the child with soap and warm water three or four times a day, then immerse the hands in some non-poisonous antiseptic. In two words, observe asepsis and antisepsis; for it is known that the origin of these diseases is sepsis, and this is brought with the fingers into the system of the child who grabs everything within reach, whether food or not, and in the above manner it will be greatly prevented. I also regulate the diet, etc.

If the poison has invaded the child's system, I try to get it out by:

Eliminatives: The principal one I use in these cases is castor-oil. I give the first dose myself, not relying upon the mother, for the following reasons: Some forget it, some neglect it, thinking the medicine alone will do the work, and some don't give enough of it. In milder cases two teaspoonfuls once every day, in severe cases two or three times a day, is necessary to eliminate the poison generated within the system. Many will object to this mode of treatment, saying it weakens the already weak child; but this is not the case. On the contrary, it invigorates the little patient, because it removes irritants from the alimentary canal, such as undigested food; it removes the poison generated by such food; it reduces temperature, and acts also as an astringent. What other remedy could you find with so many good qualities combined?

Food and Hygiene: Children nursed by the mother's breast should receive that only. and at regular intervals—about every three or four hours; others should have pure cooked milk, to which a little lime-water may be added, a few times a day; nothing else; or some prepared food at certain hours of the day, and nothing else. Not to overload the child's stomach is important, as food which is not properly digested and assimilated turns to be a source of mischief.

Medicine: If the above directions are carefully carried out, very little medicine is necessary, and the terror of that disease will vanish. In milder cases I give calomel gr. 1-12 with gr. iii of bismuth subnitrate every three hours. In severe cases I use the prescription advised by Dr. J. J. Taylor, consisting of bismuth, nutmeg, chalk, and sulpho-carb. of zinc, which works magically. If the child vomits incessantly and cannot retain anything, ice or mustard applied to the region of the stomach will usually stop it. In all the cases I treated, very seldom more than one or two visits were necessary, and a good many, I think, were prevented from taking that disease.

Cystic Abdominal Tumor in a Child Seven Months Old

The case in question, reported by Dr. Campbell (*Brit. Med. Jour.*, May 15, 1897), throve well and was apparently healthy until about 4 months old. The mother then noticed swelling of the abdomen, which gradually increased. There were periodic attacks of violent colicky pain. The respirations were shallow and embarrassed. The abdomen was greatly distended by a lobulated tumor, which was more prominent on the left side, and felt hard in its upper half, but was soft and fluctuating below. There was dullness on percussion all over the abdomen except in the right hypochondriac region, which was resonant. Upon opening the abdomen a large tumor was exposed lying behind the posterior parietal peritoneum. It had no pedicle, but was more firmly attached deep in the left side of the pelvis than elsewhere. It lay in front of the left kidney, which was situated at the level of the iliac crest and was freely movable. The intestines were pushed into the right hypochondrium. After complete enucleation of the tumor, the abdominal cavity was packed with gauze. The upper end of the wound was closed by two layers of suture, silk being used for the peritoneum and silkworm-gut for the skin and aponeurosin. There was very slight hemorrhage during the operation, and no ligatures were needed. The operation was well borne. Two hours after the operation the child took milk and barley-water, and was thenceforth fed every two hours. Fifteen-minim doses of whiskey were given every half-hour for the first three hours. The child slept well and vomited but once. The gauze was removed on the sixth day and the bowels acted spontaneously. The silkworm-gut stitches were removed on the eleventh day. The child went home at the end of a fortnight The tumor weighed three pounds and consisted of a cyst containing about ten ounces of clear yellow fluid, and of a solid portion in which a mass of cartilage and a piece of bone lay embedded. The child was seen in excellent health five months after the operation.

O.

Carcinoma of the Breast in a Boy Twelve Years Old

This case was observed by Dr. Blodgett, *Boston Med. and Surg. Jour.*, No. 24, 1897. Up to the age of 12 years the boy presented no appearance of glandular or other disease. A swelling was first noticed in the left breast, beneath and attached to the nipple, which was slightly reddened and harder than its fellow. The swelling and induration gradually increased in size, and the skin became more extensively adherent. The growth has been enucleated (about five years ago) and found to consist of the typical structure of carcinoma. The wound healed by first intention and no recurrence or metastasis has set in since. O.

A Hairpin in a Child's Vagina

Krause (*Berl. klin. Woch.*, Vol. XXXIII, No. 37) relates the case of a little girl, 6 years old, who for about two years had suffered with leucorrhea that resisted all internal treatment. When the child came under the author's care it was already much reduced by its sufferings. Local examination showed the presence of a hairpin in the vagina. It was removed with great difficulty under chloroform anesthesia, and perfect recovery followed. It was ascertained that it had been inserted by a discharged servant girl two years before, for the purpose of revenge. M.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

The Tongue in Facial Paralysis

Fr. Schultze (*Münch. med. Woch.*, June 8, 1897, ref. in *Brit. Med. Jour.*) draws attention to the fact that in peripheral facial paralysis the base of the tongue on the affected side stands at a lower level than on the other side, and that this may be noticed when the tongue is protruded, or when it is at rest in the mouth. The author relates two illustrative cases, one of which was secondary to ear-disease and the other followed upon exposure to a draught. In the first case, with the disappearance of the paralysis the tongue assumed its normal position. This mal-position was not due to any asymmetry. The cause of it is not very obvious; most probably it is due to paralysis of the stylohyoid muscles and of the hinder part of the biventer, both of which muscles are supplied from the facial nerve. No depression of the hyoid bone could be made out in the author's cases. Electrical stimulation, especially of the trunk of the facial, does not produce any raising of the base of the tongue. In central facial paralysis Schultze has not yet observed this change in the tongue.

B.

Four Cases of Cerebellar Hemorrhage, with Autopsies

Dr. R. E. Peck (*Post-Grad.*, June) has studied the symptoms produced by lesions, which, upon autopsy, were found to be of an apoplectic nature. Cerebellar apoplexy is one of the rarest forms of intracranial hemorrhage, constituting but about 2 per cent. of all fatal cases of apoplexy. The ratio of frequency of cerebellar to cerebral apoplexy, is given by Andral as one to twelve, and by Hillacret as one to thirty-five. The etiological factors which enter into the causation of rupture of cerebellar blood-vessels, are not different from those that precede apoplexy in any part of the brain, the causes of arterial degeneration, whether they be acute infectious processes or chronic diathetic conditions. Hemorrhage into the substance of the cerebellum manifests itself under two or three distinct symptomatic groups; a grave, abrupt form, in which the patient is carried quickly through deep unconsciousness and to death, and the other in which the symptoms are less abrupt in onset and completeness of development, and have distinctly cerebellar characteristics. The classical histories of four cases, with notes of the autopsies, are given, published as contributions to the symptomatology of cerebellar hemorrhage. The reports of twenty cases of hemorrhage into the cerebellum, which have been published within the past twenty years, are carefully collected and analyzed, and the symptoms and post-mortem findings tabulated. The most constant symptoms were vomiting, occurring in 55 per cent. of the cases; paralysis in 45 per cent.; headache in 40 per cent., and vertigo in 35 per cent. In four cases, paralysis was confined to the left side, in two to the right side, opposite the lesion. In one instance the upper extremities were free, while the lower limbs were paralyzed. The onset of unconsciousness was very inconstant. The headache, occipital in character, generally preceded the onset of the more serious symptoms.

L.

Hot-air Baths as a Method of Treatment of Some Forms of Epilepsy

The author, C. Cabitto, has already published in a former number of the *Revista di Freniatria* an extended study upon the toxicity of the perspiration in epileptics, and the following experimental research in the *Revista Sperimentali di Freniatria*, Vol. XXIII, p. 52, is an attempt to make practical use of the knowledge gained by his former work. The following conclusions may be gathered from his observations:

1. It has been demonstrated that during the life of the epileptic, the perspiration eliminates, at more or less definite periods, substances which injected into animals are capable of producing marked poisonous effects with epileptiform convulsions.
2. The toxicity of the perspiration seems to bear an inverse relation to that of the urine.
3. The baths of warm air seem to show in the author's cases, a means of interrupting and preventing the epileptic attacks, and that this method of treatment, combined with methods bearing upon the intestinal tract, offer the best combination with which to treat this disease, general hygienic measures of course being included in the plan of treatment.

J.

General Paralysis in the Young

Alzheimer (*Allg. Zeitschr. f. Psych.*, LII, fasc. 3) has collected the recorded cases of general paralysis of the insane occurring in children and young persons. Thirty-eight cases have been reported, and to these the writer adds three cases observed by himself, one beginning at the age of 9 years. Unlike the disease in adults, it occurs with equal frequency in the two sexes. The onset in 8 cases was in the 13th or 14th year; in 11 cases it was in the 15th or 16th year, while other cases began a little later. In 28 out of 34 cases hereditary syphilis was certain or probable, and in more than half the cases there was some neurotic heredity. The symptoms and pathology were the same as in adults, and the duration of the disease was about four and a half years in most of the cases, but in some was more than seven years. B.

The Toxicity of the Perspiration of Epileptics

With the progressive increase of the number of researches upon the causes of epilepsy the auto-intoxication theories seem to be forging to the front. C. Cabitto, in the *Revista Sperimentali di Freniatria*, Vol. XXIII, p. 36, presents an extended and careful series of observations, chemical analyses and animal experiments bearing upon the question of the toxicity of the perspiration in epileptics.

The experiments were conducted before, during, and after attacks, and the following general conclusions are drawn from the work:

1. The perspiration of epileptics in the prodromal period of the attack produces, when injected into the circulation of rabbits, a decisive toxic action with the production of marked convulsions.
2. The toxic and convulsive action seem to increase step by step with the nearness to the attack and decrease immediately after the paroxysm, in relation to the length of the epileptic interval.
3. Attacks occurring out of the regular periodicity of the disease do not seem to exercise any influence upon the toxicity of the perspiration.
4. In the latest period between attacks, the action of the perspiration of epileptics does not seem to differ from that of the sane. J.

Acute Localized Transverse Myelitis

Jonathan Hutchinson (*Arch. of Surg.*, Vol. VIII, No. 31) cites a case of a young man, aged 25, who was infected with syphilis in April, 1895. After the eruption and sore throat appeared, treatment was commenced, but not regularly carried out. The grey powder he ceased taking because he had dyspepsia, the fluid solution because it purged. He was finally treated by hypodermic injections. His symptoms soon disappeared. Exactly a year after, feeling well, he went abroad. Four months later, he complained of pain in the back and feeling unwell. The lumbar pain was nocturnal and deprived him of sleep. Soon lower limbs became very weak and his temperature went up. Next he had paralysis in the toes, gradually spreading upward, so that in a fortnight he had lost all sensation in the lower limbs as high as the iliac crest. He had at this time incontinence of urine and feces. After two months' treatment with potassium iodide and mercury, he was able to get up and walk with a stick.

Four months after this attack the patient could walk a short distance fairly, but was unable to run. The lower limbs felt stiff and in some sense numb, with subjective coldness in them. His knee-reflexes were exaggerated to a degree which the writer thinks he never saw surpassed, the slightest touch provoking a kick. He could void urine but not with much force, and he could not hold it for many minutes after the desire to micturate had been felt. His bowels were sluggish, and he had difficulty in evacuating the lower bowel even when loaded with feces.

At the time the author saw the patient he was in good health, he had no backache nor other signs of syphilis than the peeling patches of the palms.

No exciting cause could in this case be assigned for the myelitis. The patient had not been guilty of any excesses, nor had he sustained unusual fatigue or any form of injury.

Comparative Observations on the Involuntary Movements of Adults and Children

In the *Amer. Jour. of Psych.*, Vol. 8, p. 394, M. A. Tucker contributes a study upon involuntary movements. The apparatus in use was one of Jastrow's automatographs with a certain number of minor modifications. The paper is illustrated with a number of plates. The author sums up his observations as follows:

1. There is a physiological tendency for the hands and arms resting in front of the body to move inward toward the median plane of the body.
2. There is no certainty that when we see an object we tend to move toward it. We may think of it simply as an object at rest, and the idea of motion is necessary to cause movement in that direction.
3. Involuntary muscular movements may be controlled by the influence of the sight or vivid visual remembrance of moving objects; and the imitation of the direction of moving stimuli is the result.
4. Children are governed by and subject to the same laws as adults, but to a less extent.
5. There is no sex- or age-difference in children, either in involuntary or controlled muscular movements.

SURGERY

William B. Coley, M.D., Jarvis S. Wight, Jr., M.D., David M. Stabler, M.D.

Exclusion of the Intestine

Albert Heydenreich, Dean of the Faculty of Medicine of Nancy, writes to *La Sem. méd.* (No. VI, pp. 41-42, 1897), a comprehensive analysis of the above subject.

In 1891, at the twentieth Congress of the German Society of Surgery, Salzer (of Utrecht) advocated exclusion of the intestine, because he had noted the failure of therapeutics in many cases of tumors and fecal fistulæ of the cecum and colon. When simple enterorrhaphy was done, it healed badly; resection was difficult, and dangerous out of all proportion to the lesion; and, in cases of neoplasm, entero-anastomosis did not prevent irritation from contact of matters passing through the diseased portion. He proposed to exclude the diseased portion from the functionating intestine without excising it, calling the operation exclusion of the intestine. It was clearly practicable where the excluded portion had a fistulous opening permitting discharge of secretions. Was it practicable without a fistula to avoid poisoning from decomposition of the secretions in the excluded section, or ulceration due to the same cause, followed by peritonitis, or even transformation of the part into a sort of cyst susceptible of rupture? He experimented on dogs to find answers to these questions, and, on the results obtained, decided it would be risky to exclude a portion of intestine and at the same time completely occlude it without providing an opening from it into a blood-vessel or into a pus-pocket. But he did recommend exclusion with establishment of a fistula from one end of the excluded portion. Klecki (of Cracow) disinfected the excluded portion before occluding it; but the animals died and he pronounced against the operation.

Hochenegg applied this principle of exclusion upon a patient at the Albert clinic who showed symptoms of chronic typhlitis that appeared at the operation to be due to carcinomatous conditions. He fixed the end of the excluded part into the abdominal wound, making a fistula. This patient got well.

Rudolf Frank did the same operation in a case of chronic inflammation of the ileum and cecum with multiple contractions of the affected portion. He excluded one meter (thirty-nine inches) of the intestine, and made one end fistulous. This patient got well.

Von Eiselsberg used this method in a young girl of 15 years, who had a cecal fistula surrounded by indurated tissue. Here he closed both ends of the excluded part and left the fistula between them, which gave very little discharge.

Von Baracz (of Lemberg) went still further and completely occluded the excluded portion of intestine. The case was that of a young man of 19 years, in whom he diagnosed malignant tumor of the cecum. He intended to resect the cecum and the adjoining portions of the ascending colon and the ileum, but he met such difficulties in the extirpation that he decided to let the diseased portion stay in its place, though it was 30 cm. in length (i. e. 13 inches). He closed both ends of the excluded portion, re-established continuity between the upper end of the ileum and the lower end of the colon, after Senn's method. During the operation he discovered the diseased portion was not a neoplasm, but an invagination with tumefaction. After the operation he could perceive by palpation the gradual disappearance of the swelling. The man was alive and well eleven months after the operation. From this case he concluded that in man the cecum when occluded produced little, if any, secretion, perforation therefrom is not to be feared and the operation is indicated for neoplasm of the cecum when resection cannot be done on account of adhesion or too large growth of neoplasm. The advantage is in avoiding a fistula which in drying up would need a second operation to close it.

Thus, two operations are practicable: Exclusion with formation of fistula, and exclusion with complete occlusion of the excluded part. The first has been called partial exclusion, the second total exclusion of the intestine, terms inaccurate, but concise. Partial exclusion has been generally accepted by surgeons. The following operators have performed it in addition to those named above: Obalinski, Körte, Funke, Narath, Von Erlach, Von Eiselsberg (3 new cases, 1 death), Bier (3 cases), Ulmann (2 cases), and Weisinger—17 operations. The fistula may be made double, i. e., with both ends in the external wound, single with the upper end fistulous, single with the lower end fistulous, or a pre-exising fistula is made to do service and both ends are closed, or a new fistula is made and the double occlusion practiced. Von Eiselsberg did a similar exclusion on the pylorus, where cancer and the nature of the case forbade excision: he severed the diseased pyloric end from both stomach and duodenum and made a gastro-enterostomy. He recommends this operation, though more difficult, because it removes the neoplastic part from the irritation of the chyme.

The author knows of but four cases of total exclusion of the intestine. One is the case of Obalinski (of Cracow) who cut off the cecum in a girl of 24 years who had a fecal fistula of that part, and then found it impossible to approximate the two ends of the intestine to be sutured. He decided to separate the ascending from the transverse colon, close the two ends of the ascending colon and unite end to end the ileum and transverse colon. His patient got well without accident. Friele (of Bergen) made an artificial anus on the ascending colon of a man 64 years old, who had a neoplasm of the descending colon. Some days after he made a total exclusion of the descending colon and anastomosed the transverse colon with the sigmoid flexure. Two further steps were taken to close the artificial anus. Finally the patient left the hospital in good condition, forty days after the operation for exclusion. But five weeks afterward he died of the intestinal occlusion. Autopsy showed strangulation of the small intestine. The excluded intestine, 42 cm. (15.6 inches) long, contained fifty grammes of fecal liquid. The mucous membrane was healthy, except where the tumor existed. Weisinger (of Hamburg) did a partial exclusion with fistula, and subsequently closed the fistula. The patient was a woman of thirty-one years, with ulcerations and contractions of the large intestine, whom an artificial anus on the ascending colon had failed to help. Weisinger cut the ascending colon above the artificial anus and the descending colon at the sigmoid flexure. The lower end of the excluded portion was then closed and the upper connected with the skin. This ceased to have much secretion and was finally closed by operation.

In spite of the above successes most surgeons are against total exclusion of a part of the intestine on account of the danger from the intestinal secretion in which the coli bacillus has been found to be very virulent. So that its advocates, Obalinski and Von Baracz, reserve it for the large intestine alone, the secretion there being so much less than in the small intestine; besides which, as Obalinski points out, the small intestine admits of extirpation where the large would not. Limited to the large intestine Von Baracz further restricts it to (1) chronic invagination with adhesions rendering resection impossible; (2) chronic adhesive peritonitis with consequent contraction in the ileo-caecal region—resection impossible; (3) exceptionally the healthy color, as in Obalinski's case given above, may be totally occluded. Obalinski has since admitted that if the part to be excluded is unhealthy on account of carcinoma, tuberculosis, actinomycosis, or ulcerations, the upper end must be left open in the abdominal wound and the fistula left unclosed until the secretion has certainly diminished to a minimum. Even if total occlusion is done, he thinks one end of the occluded part should be fixed in the abdominal wound to be easily found in case of accident. In this operation he also took care to leave the peritoneal cavity open for eight days, with a tampon of sterilized gauze reaching into the excluded part. Funke had one case of fecal fistula in a man of 39 years, in whom he excluded the cecum and neighboring parts of the ileum and colon and completely occluded the excluded part. The third day the patient had fever. He reopened the fistula, whence ran a great quantity of fecal liquid. There was no further accident, but the fistula was left open and its secretion reduced to a minimum.

Finally, the only advantage of total over partial exclusion is in saving the patient the discomfort of a fistula; but, it may necessitate a second operation to re-open the fistula. The only cases on which total exclusion is practicable are those in which the secretion is a minimum, and these are the cases where partial exclusion gives little discomfort with the open fistula. The author, therefore, advises always partial exclusion first, with resort to closure of the fistula afterward, if the case will admit of it. What, then, is the value of exclusion? Resection is preferable generally, and exclusion is but palliative in cases of neoplasm; but when resection is impracticable, then exclusion is a valuable resource. It is least valuable for the small intestines on account of their more abundant secretions, and these are the cases which most easily admit of resection; while on the other hand, the secretion is least in the large intestine, and it is that part of the intestinal tract that least frequently admits of resection. H.

Dermatol in Surgery

Prof. Julliard (*Treatment*, Part II, Vol. I, No. 6, p. 128) says that dermatol is in many respects preferable to iodoform. Though a feeble antiseptic, being itself aseptic, it is both more drying and more stimulating than iodoform. It produces more active granulation in wounds than iodoform. It is styptic and non-poisonous. Prof. Julliard says he has used dermatol (subgallate of bismuth) gauze with special success in the treatment of chronic tuberculous abscesses. These he first lays open and afterward scrapes with a sharp spoon. He then washes them with a weak solution of corrosive sublimate, and finally plugs them with dermatol gauze. It is further claimed to be of special use in stinking cavities and sluggish ulcers. It is also useful as a dusting powder to allay irritation produced by dressings, containing corrosive sublimate and carbolic acid. The writer uses it further in compound fracture, in which all hope of union by first intention has been abandoned, and says that with its help, after some years' experience, he never had occasion to amputate, nor has he had any case of secondary infection. P.

The Treatment of Chloroform Collapse

Leonard Hill (*Treatment*, Part II, Vol. I, No. 6, p. 126) claims that by examining what effect change of position has upon the venous and arterial pressures, and using this as an index of vaso-motor tone, he has been able to show that chloroform is one of the most powerful and rapid depressants of vaso-motor tone that we possess. The cause of chloroform collapse is in all cases primary failure of the circulatory mechanism. There are two types of chloroform collapse:

1. In that occurring on primary anesthetization, the patient struggles violently and then passes suddenly into a condition of collapse. The author says that on immediately opening the thorax in all such cases the heart is always found to be in a state of paralytic dilatation. The pulse ceases earlier than the respiration.

2. The second type of collapse occurs when chloroform is administered slowly and struggling is not provoked. This type is apt to occur during prolonged anesthetization. The vaso-motor mechanism becomes paralyzed, the blood stagnates within the splanchnic area, the respiration fails from anemia of the spinal bulb, and finally the heart fails also. The first type of collapse is sudden in onset, and is of the utmost danger to the patient. The second type is slow in onset, and is easily remedied by performing artificial respiration, and by placing the patient in a horizontal position, with the abdomen slightly higher than the heart. It is the first type of collapse which is of the utmost importance to the anesthetist, and it is this type which has hitherto generally resisted the remedial efforts. The author finds that paralytic dilatation of the heart can be remedied in nearly every case by the following method:

Artificial respiration is at once applied, the thorax is rhythmically squeezed over the region of the heart, while the animal is placed in the horizontal position. If the pulse does not speedily return the animal is dropped into the vertical feet-down posture. By this simple means the heart, owing to the influence of gravity, is emptied into the splanchnic area; thus the dilatation of the organ is relieved. Artificial respiration is maintained throughout the maneuver. After a few seconds the animal is returned to the horizontal posture, and the heart is thus filled with a fresh supply of blood. If the pulse does not return, the maneuver is once more repeated. When the pulse has returned and the heart-beat has become efficient the artificial respiration can be discontinued, and after a short space of time the natural breathing will usually return, owing to the excitation of asphyxia. The arterial pressure is similarly improved by temporary asphyxia. During this period the pulse must be carefully watched, and artificial respiration renewed if there be any sign of failure.

In the first type of collapse Nélaton's method of inverting the patient head downward is worse than useless. The paralytic dilatation of the heart is thereby increased. That the heart is emptied by the vertical, feet-down position, and that it recommences beating when emptied, can be observed with great ease on opening the thorax of an animal during the state of chloroform syncope. The author feels convinced that a saving of life will result (1) from following the rule of the Hyderabad Commission, that chloroform never be pressed during the stage of struggling, and (2) from employing the method of recovery described above. The second type of collapse is relieved by the vertical head-down position (Nélaton's method). It is equally relieved by the horizontal position and artificial respiration. As the anesthetist can never be sure which type of collapse he has to deal with, the author thinks Nélaton's should never be employed. If we have to deal with the first type of collapse, Nélaton's inversion is a fatal mistake; if the second type confronts us, recovery can be brought about by artificial respiration and the horizontal position.

Morphia is one of the finest drugs we possess for the maintenance of vaso-motor tone. Atropine, by stopping all reflex inhibition of the heart, maintains the velocity of the blood-flow during chloroform-inhalation.

From the results of these experiments upon animals, the injection of morphia combined with atropine should be of the greatest value in cases where chloroform-anesthesia is required. Dastre recommends the injection of 1-120 grn. of atropine sulphate, combined with 1-6 grn. of morphia hydrochlorate, twenty minutes before the administration of chloroform. It prevents the fear of the anesthetic and the shock that follows. P.

EYE, EAR, NOSE, AND THROAT

JOHN C. LESTER, M.D., HEBER N. HOOPLE, M.D.,
VINCENT GOMEZ, M.D., WM. C. BRAISLIN, M.D.

Giddiness and Staggering in Ear-disease

Dr. Thomas Barr considers this subject in a communication to the *Brit. Med. Jour.* (May, 1897). Middle-ear giddiness is produced by pressure primarily applied to the walls of the middle ear. The pressure of inflammatory products is most common, but the pressure of air, water, or medicated solutions may also give rise to giddiness. While it is probable that sudden labyrinthine pressure invariably excites giddiness, it is not so in cases of the middle ear, as many persons have augmented middle-ear pressure without giddiness. There is not only a closer relationship between certain branches of the auditory nerve and the center of equilibrium in the cerebellum, but there seems also to be a reflex connection between the nerves of the middle ear and this center, so that when the former are irritated the latter is apt to become disturbed.

In contrasting middle-ear giddiness with the labyrinthine form, the author states that the whole of the symptoms of a true Méniére's attack may be produced by middle-ear pressure, but in some the sickness and vomiting are absent. The vertigo may be extreme, or it may amount to no more than a staggering backward when the head is suddenly turned round, especially to the affected side, with a tendency to fall forward when the head is moved again to the front. Some patients complain of a staggering tendency in the dark, while others say they tend to fall if they turn quickly or stoop. An important distinction between this form of vertigo and the labyrinthine variety is that here the whole of the symptoms frequently disappear, the accessibility and nature of the region affected enabling us to remove, by operative or other treatment, the pathological cause. In middle-ear giddiness, the subjective sounds are rarely so distressing, nor is the defective hearing so extreme, as in the former class of cases, while bone-conduction is in the great majority of cases in excess of air-conduction. This is contrary to what is usually found in labyrinthine giddiness. The writer has observed many examples of giddiness due to excessive, and especially to sudden, air pressure upon the walls of the middle ear. The act of blowing the nose, by forcing a current of air into the middle ear, sometimes excites giddiness. The pressing of air into the tympanic cavity by forced expiration while the nose and lips are closed (Valsalva's experiment), is a more fruitful source of giddiness. It is likewise well known to aurists that, in some persons, temporary giddiness is excited by inflating the middle ear by Politzer's method or with the catheter. The entrance of water into the middle ear through an existing perforation of the tympanic membrane often induces giddiness, sometimes of a violent character. Even where the tympanic membrane is intact, syringing the ear, especially if the water be too hot or too cold, or the force too great, excites giddiness in some persons. The danger, however, is much greater when the membrane is perforated. In such cases even nausea and vomiting may also be excited. The use of the intratympanic syringe is still more apt to excite giddiness, If the syringing of the ear is apt, in some persons with perforated tympanic membranes, to induce giddiness, the rush of water into the ear in such persons, while the head is immersed during bathing, it is highly probable has the same effect. The author thinks it probable, that death from drowning during bathing is sometimes connected, in the case of expert swimmers, not with exhaustion or cramp, but with the sudden occurrence of giddiness, due to the rush of water into the canal of the ear and into the tympanic cavity through a perforation which may exist in the membrane. The simple exudative catarrhs of the middle ear without perforation of the drum do not so frequently excite giddiness as the more acute purulent forms. B.

On Puncture of the Fenestra Rotunda, Followed by Aspiration, in Labyrinthine Disease

Forns (*Ann. des Mal. de l'Oreille, etc.*; ref. in *Jour. of Lar., Rhin., and Otol.*, May, 1897) criticizes this method of treatment from an anatomical point of view. The method alluded to was first proposed by Dr. Botey, (Barcelona, Spain).

It appears that Dr. Botey after puncture of the membrane of the round window introduces a bent cannula, directing its extremity upward and forward to reach the internal face of the plate of the stapes in order to enter the vestibule. The author points out that the *cul de sac* of the scala tympani of the cochlea (i. e., the cavity entered by puncture of the round window) is for the most part roofed in by the first portion of the lamina spiralis, and that the narrow hiatus between this and the outer wall, seen in dried specimens, is in the fresh specimen bridged over by the basilar membrane; in fact, the passage of an instrument from the foramen rotundum to the inner face of the stapedial plate must of necessity traverse the basilar membrane and the membrane of Reissner—in a word, the canalis cochleæ must be opened and the escape of endolymph, as well as peri-lymph, permitted. In order to avoid this disturbance of the membranous labyrinth Prof. Forns employs a cannula with two bends—one in the shaft to facilitate proceedings when the foramen lies posterior to the tympanic margin, the other at the extremity. The latter is curved, with the point turned forward and slightly downward. By rotation of the instrument (in the manner of a corkscrew) the point is made to penetrate the membrane of the round window, and then to travel downward and forward, so that the end lies free in the scala tympani. The writer does not here deal with the indications for and results of aspiration of peri-lymph, but wishes to point out certain errors in the technique as described by Dr. Botey. B.

The Money-value of Surgical Science

Speaking recently in support of the fund which is being raised for the Royal London Ophthalmic Hospital, Moorfields, Mr. Jonathan Hutchinson, as quoted by the *Brit. Med. Jour.*, took occasion to refer to the financial aspects of ophthalmic science, declaring that in no other direction could money be so profitably invested. The prevention of blindness in all its various forms he described as an economic matter of the greatest national importance. As an illustration of his meaning he referred to glaucoma. In its acute form, he pointed out, it usually attacked very healthy persons, those who were still in the prime of life. It shifted from one eye to the other very quickly, and if not cured it left its victims hopelessly, irrevocably blind. A timely operation would cure it permanently, but the opportunity, if lost, was gone forever. Supposing, he said, a man who was earning £1 a week to be attacked by glaucoma at the age of 45 or 50, it might be taken that he had at that age ten or fifteen years of useful wage-earning life before him—to be moderate, say an average of ten years. A successful operation would therefore save to that man, and through him to the community, £520. He would probably be in the hospital a fortnight, at a cost, say, of £1 a week, and he would probably want a month's rest afterward before returning to work, so £8 must be deducted. There still remained a clear gain of £512. Glaucoma, although one of the most definite instances which could be quoted, was only one among many, in some respects not one of the best, because it rarely occurred before middle age. Cataract was more common than glaucoma, and stood by its side. It, however, was again a malady which occurred only at a time of life when the further prospect of wage-earning has become limited. B.

Albuminuric Retinitis

Dr. C. R. A. Sutton, (*Guy's Hospital*, Vol. LII), concludes his paper on this subject as follows:

1. Albuminuric retinitis affects both acute, chronic, and lardaceous cases, especially chronic interstitial and chronic tubal, and the latter relatively more often.
2. Both eyes are affected at one time or another.
3. Sex, age, and occupation had no special import.
4. The white spots may depend on
   - *a* Coagulation of filmy extravasation.
   - *b* Fatty transformation of serum.
   - *c* Decolorization of blood-clots.
   - *d* Fatty degeneration of Müller's fibers.
   - *e* Edema of nerve-fibers.
   - *f* Sclerosis of nerve-fibers.
   - *g* Diapedesis and collections of white corpuscles.
5. The hemorrhages are most likely due to the morbid state of the blood and to the pressure on the vessels by the deposit in the retina. Increased arterial tension and hypertrophy of the heart probably play merely subordinate parts.
6. The optic neuritis is often associated with conspicuous symptoms of cerebral disturbance, and though the cause is mostly obscure, an inflammation extending from the meninges may possible explain some cases.
7. In the present state of our knowledge we are not justified in attributing the retinal symptoms to the influence of the sympathetic.
8. The main factor in their causation is probably the dyscrasia of the blood.
9. This dyscrasia depends on the number of red and white corpuscles and in a minor degree on the amount of hemoglobin rather than on any uremic condition.
10. In acute nephritis, and in early cases of pregnancy, the retinitis often disappears with the albuminuria, but in later cases of pregnancy it often persists and attends a fatal issue.
11. In chronic nephritis, as regards prognosis, the retinitis is of far greater value in the tubal cases than in the interstitial.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M.D., HOMER E. FRASER, M.D.

Tinea Tonsurans Treated with Formaldehyd

Dr. Vidal Solares (*Arch. de Gine., Obste., y Pediatria*, No. 10, 1897) has treated twenty-five cases of tinea tonsurans, in children, by means of local application of formic aldehyd. He first shaves the plaques or spots in the scalp, and rubs them daily or every two days with a 40-per-cent. solution of formaldehyd. This manipulation is done with the aid of a brush, for ten minutes, and to conclude he sprays the affected parts.

After five treatments he allows the patient to rest for five days.

This mode of treatment is usually well tolerated. although some cases complain of a sense of heat. B.

Pemphigus Foliaceus or Dermatitis Herpetiformis

The confusion which exists, in spite of all that has been written on the subject of the disease known as pemphigus foliaceus, from various allied cutaneous affections now grouped under the title of dermatitis herpetiformis (Duhring), prompts Dr. Andrew P. Biddle in the *Jour. of Cut. and Gen.-Ur. Dis.*, May, 1897) to record the history of the following case. A. W., aged 21, had suffered from boyhood with what he termed salt rheum of the lower extremities. Three months before consulting the doctor he suffered from what was supposed to be an attack of la grippe. Recovery being slow, he consulted Dr. Harvey, who found an eruption especially situated on the mucous membrane of the mouth, which, from history, etc., was diagnosed as syphilis. The family history was negative.

About this time Dr. Harvey referred the patient to Dr. Biddle, who found a bullous eruption on the mucous membrane of the mouth, and scattered over the lower extremities were blebs one-eighth to one-half inch in diameter; they were more or less tense, their contents were clear, and they were usually situated on a slightly reddened surface. A diagnosis of pemphigus vulgaris was made which was subsequently changed to pemphigus foliaceus. Changes soon followed one another in rapid succession; the bullæ became flabby, the contents more opaque; they rupture easily, exfoliate, and soon dry up into a thin crustation. The bullæ of the mucous membrane of the mouth were especially large, their contents firm, causing dyspnea. The skin is infiltrated, especially that of the face. The nails and hair are decidedly thinned. Itching is intense, scratching irresistible, so that the entire body is covered with excoriations.

The severity of the symptoms gradually subsided, although up to the time of writing the body has never been free from the formation of new blebs, there have been a number of vesicles and pustules accompanying them. The appetite has always been fairly good, whenever deglutition has been possible. The history of the case is given in detail. The case at the outset would suggest pemphigus foliaceus, but later, from the uniformity of the lesions, it simulated Duhring's disease (dermatitis herpetiformis). S.

A Case of Multiple Circumscribed Scleroderma Originating in a Patient with Progressive Muscular Atrophy

Dr. George T. Elliot (in the *Jour. of Cut. and Gen.-Ur. Dis.*, May, 1897) gives a report of the following interesting case. German widow, aged 43, always enjoyed good health. Shortly after her removal to this country, being employed by a butcher, she received a severe cut on the hand; she then became employed as a seamstress; fifteen years ago she was obliged to discontinue this occupation on account of weakness of the left hand, accompanied by a sensation of chill; electric treatment was not productive of benefit. Five years later the cutaneous lesions began to appear on the arms, subsequently they developed over the shoulders and finally on the back. Their origin was accompanied by boring pains in the arms. The patient at the time of consultation was a stout, apparently healthy woman, functional health was good. She slept well, but complained of a feeling of lassitude, of excessive perspiration, of a sensation of cold, and also of severe pinching and grinding pains in the back of the neck, along the dorsal portion of the spine, and over the shoulders and extensor aspects of the upper arms. Pressure over the first and seventh dorsal vertebræ produced pain, causing the patient to wince and cry out. The hands were remarkably changed, the left being especially affected. The abductors and adductors of the left thumb were atrophied to the extent that no movement could be produced. The wrist could not be flexed, although rotation was possible. The cutaneous manifestations presented by the woman were in all stages, and more or less widely distributed over the upper portions of the body, varying in size from a large pea to a silver dollar. By actual count there were 145 lesions present. The lesions were markedly atrophic, the skin, thin and parchment-like, with here and there punctiform depressions suggesting glandular orifices, white, sharply defined, oval or circular in shape, with no red or violaceous border. Many of the spots were sensitive to pressure. Some of the lesions showed no sign of atrophy. The recent ones were particularly painful. The patient gradually weakened, the muscular atrophy increased, and she soon thereafter died.

The doctor concludes that the disease was probably a neurosis, but to what the nerve-disturbance may be due is difficult to determine. The arrangement of the lesions in a zosteriform manner is unique, although such distributions have already been recorded, the disease following the course of a nerve. He designates this as a case of circumscribed scleroderma, and not morphœa, in accordance with modern opinion, which has discarded the latter term in favor of the former, and regards the process as one form of scleroderma. S.

Treatment of Soft Chancre

The following treatment has been recommended (*La Trib. méd.*) for soft chancre. Every morning the ulceration should be touched with a tampon of cotton wool wetted with the following:

Menthol	1 grn.
Carbolic Acid	5 grn.
Alcohol	1½ f. dr.

Aristol is then dusted on, and the dressing made complete by the application of a piece of absorbent wool. The patient is directed to wash the sore several times during the day with a solution of carbolic acid, and to dust with aristol, and every possible friction or cause of congestion should be avoided. Should the ulcer become phagedenic it must be touched with the folowing solution:

Cocain	1 grn.
Iron Potassium Tartrate	5 grn.
Distilled Water	1½ f. dr.

and powdered with a mixture of twenty parts of iodoform, with five parts of menthol. At the same time potassio-tartrate of iron should be given internally. M.

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Reaction for Distinguishing Boiled From Unboiled Milk

Acording to J. Carcano (*Nouv. Rem.*, XIII, p. 335), the following reaction serves to differentiate boiled from unboiled milk: Put a few cubic centimeters of the suspected milk in a porcelain saucer, add a few drops of fairly fresh oil of turpentine, and heat slowly. Then add to the mixture an alcoholic solution of resin guaiac. Unboiled milk is colored blue. The absence of the coloration indicates unquestionably that the milk has been boiled.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

What Shall Be Done with Prolapsed Ovaries?

Charles O'Donovan, M. D., in a contribution to *Maryland Med. Jour.*, Vol. XXXVII, No. 4, p. 55, asserts that when prolapsed ovaries, even if unadherent, are so tender and sensitive that no pessary can be worn, relief may sometimes be obtained by the use of cotton or wool tampons, applied after the method of Bozeman, by building up a heap of small tampons, saturated with some antiseptic, from the posterior cul-de-sac to the symphysis; wool being best, as it is more elastic and exerts greater pressure upward, and so pushes the ovary into better position and supports it there until circulation shall have become better established and the redundant tissue reabsorbed. Such tampons may be worn for several months by reapplying them every few days, and to obtain any good result they must be kept constantly in use, otherwise what had been gained one day would be lost the next when the tampon is out of the vagina. C.

. Puerperal Eclampsia

Dr. Upshur says (*Zangsdale's Lancet*, Vol. I, No. 12) that in dealing with this condition prophylaxis is of the utmost importance. For this purpose the patient's diet should be nutritious, digestible, not rich; regular exercise in the fresh air, and especial care of the bowels and kidneys.

The administration of saline cathartics should be frequent, making the mucous membrane of the bowels eliminative and derivative; an abundance of lithia water and other necessary diuretics, to stimulate the kidneys. If the patient shows evidences of anemia, full doses of the tincture of the chloride of iron, long continued, will be of value.

The treatment of the case when convulsions occur, consists imperatively in free administration of chloroform and prompt bleeding, with active purgation if the bowels are constipated; nor should we forget that the welfare of the patient depends upon as prompt delivery as possible—by manual dilatation of the womb and forceps or turning. When the patient remains unconscious after delivery, with symptoms of depression, as evidenced by rapid, feeble pulse, a hypodermic of strychnia nitrate will do much good by its action in sustaining the heart and diminishing cerebral congestion, at the same time sustaining the uterus in firm contraction.

The author is convinced of the usefulness of morphia in conditions of rigid os and cervix in the first stage of labor—but if there be symptoms of threatened eclampsia, it is positively contraindicated and should not be given in the treatment of the convulsions; it arrests secretion in the skin and kidneys and favors the retention of the effete materials in the system.

New Method of Resuscitating the Still-born

Dr. Bedford Brown says that the best sign for distinguishing the still-born from the dead is to be found in the temperature. If the temperature keeps near the normal, we must not cease our efforts at resuscitation, even if the complete suspension of cardiac and respiratory action has lasted for twenty minutes or more; but if the temperature of the child suddenly falls 10, 15 or 20 degrees below the normal, then the case is hopeless. Another sign is the state of the pupil: in the dead the pupil is widely dilated, in the still-born it is but little, if at all relaxed (*Therap. Gaz.*, Vol. XXI, No. 6). The method consists in injecting into each arm five drops of whiskey with one drop of tincture of belladonna. If the infant is only still-born, the nervous and circulatory system respond quickly. If there is no response or only a very feeble one, warm sterilized water is injected under the skin (a drachm or two) and also about two drachms with a drop of aromatic spirits of ammonia, into the intestines. After this dry heat is applied. If these measures fail to produce a reaction, it is a fair test of the absence of vitality.

The author has tested all the usual methods of resuscitation, as artificial respiration, alternate immersion in warm and cold water, rhythmical traction of the tongue, etc., but he considers his method infinitely superior. The histories of some cases are appended, showing the prompt action of the hypodermic method. M.

On Drainage Following Abdominal Section

Baldy (*Am. Gyn. and Obstet. Jour.*, May) believes it no exaggeration when the statement is advanced that the tendency of the day in surgery is to eliminate drainage as much as possible, and that experience is daily proving that this procedure is less and less necessary in abdominal surgery. Ideal surgery is that which permits the surgeon to close tightly all wounds in such a manner that there will be little need of after-treatment or dressing; for the nearer one can approach this desideratum the nearer he approaches perfect surgery, and any tendency which leads one away from the accomplishment of this is faulty, and is to be tolerated only as a necessary evil. Such is drainage—it is a necessary evil in abdominal surgery, and becomes the more necessary in proportion to the lack of skill or judgment brought to the case by the individual surgeon. He who has run the gauntlet of caring for a drainage-tube or caring for and removing a gauze drain will in the majority of instances accept it as a thing of the past. He who has seen fistula after fistula follow its use will breathe a sigh of relief. He who has felt with a certain degree of uneasiness that a large portion of his resulting wound-hernias has been due to the drainage-tube will gladly in future dispense with its use. Baldy's working rule has become "when in doubt do not drain." The result has been that since he has practically ceased to drain he has not seen a fistula occur, nor does he know of but one or two hernias during the past three years' work. The free suturing of all wounds with catgut, by which all traumatisms are rendered extraperitoneal, and oozing is got rid of to as great an extent as possible, has helped to eliminate the necessity of drainage. The adoption of the Trendelenburg position in operating has not merely facilitated this but has rendered it possible in cases where it otherwise would not have been so. L.

Anesthesia in Normal Labor

At the sixth congress of Russian physicians, Dr. Bakoemsky related his experience with fifty-three women, with normal labor, to whom he administered anesthetics. To forty-five he gave ether, and to eight chloroform. The investigations carried on partly by the aid of the tokodynamometer, and partly by other instruments of precision, showed that during the administration of ether the pulse and the respiration remained almost the same, and the contractile force of the uterus was increased; the duration of labor was shorter, in no instance was there albumin in the urine; the involution of the uterus seemed to progress more rapidly; in the new-born icterus was more rare, they lost less in weight during the first week. The experience with chloroform was not quite so favorable, as it somewhat slows the progress of labor. In conclusion, the author says that in ether we possess an ideal remedy to abolish the suffering in labor, and we should employ it much more frequently than we do. He is surprised that this view is making such slow headway among physicians. M.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Bacteriology in Its Relations to Chemistry

John G. Spenzer, M. D. (*Cleveland Med. Gaz.*, May), refers to the progress made in the clinical study of bacteria and of their products, which has been principally due to methods of pure cultivation and which can hardly be very much improved upon. Pure cultivations of yeast for making bread, wine, and especially beer, are now articles of commerce, and their importance in a pure state is generally acknowledged. It is quite reasonable to suppose that pure cultivations of bacteria for research could be obtained much as we obtain pure chemicals. The same bacterium under different conditions may show a variation in character greater than that between two distinct species. It has been shown that the fermentations set up by different bacteria and yeast-germs are entirely different; they are of great importance to the chemist, as they have afforded the only means of breaking up certain compounds and isolating new products. On account of the selective action, attacking some substances and not others in the same solution, it is possible through their agency to separate certain isomeric compounds which have heretofore baffled the chemist. No case is known of a perfect physiologic antagonism between two substances, so that every action of one is counteracted by the other. A peculiar kind of physiologic antagonism can be observed in the case of micro-organisms. It seems to be a general law that they cannot live well amid the products of their own existence; in fact, they are destroyed thereby. Thus the yeast-germ dies when brought into alcohol, the Mycoderma aceti in vinegar, the lactic-acid bacillus in lactic acid, and fermentation-bacteria in aromatic putrefactive products. On this are founded vaccination and immunity from disease. L.

The Biology of the Amebæ

The great difficulty in the way of studying the lower animal parasites, because of the lack of any suitable culture-media, led Celli and Fioeca, in *Balletina della R. Acad. Medica di Roma*, XX, Fasc. 5, to try some of the sea-weeds of the Italian coast. Fucus crispus (Chrondus crispus) was tried and prepared in the following way:

Five-per-cent. fucus was added to water, with or without bouillon and cooked for some time. This was rendered alkaline, 1 c.c. deci-normal sodium-hydrate solution to 10 c.c. of preparation; this was then treated as ordinary agar. The authors found that when pure cultures of the amebæ were obtained they soon perished, showing to their minds that a direct symbiosis was present. The different species of amebæ were, however, readily isolated.

From the feces of sick and healthy persons the authors found the following species: Ameba guttula, coli, spinosa, diaphana, vermiculans, and reticularis.

The authors give a series of tables showing the occurrence of the organisms in children and in adults in different intestinal affections. A large proportion of positive finds in dysentery inclines them to believe in the ameba theory of this disease as well as for abscess of the liver, although the evidence, they say, is not absolutely conclusive. They found the organisms in about one-half of the cases, notably in Egyptians; the amebæ coli were present. J.

The Origin of Wandering Cells in the Cornea

An article by George Buddee (*Virchow's Arch.*, CXLVII, 2, p. 217, 1897) is directed exclusively against the inflammatory theory of Cohnheim. Cohnheim's statement that the inflammatory cell-forms occurring in the cornea are counterparts of the leucocytes, that simple traumatic keratitis always begins at the periphery of the cornea, and that the fixed cells of the cornea encroached upon by the emigrated pus-corpuscles are unaltered, is fully combatted by Buddee upon the basis of his researches and the methods of staining employed by him.

A Method of Staining the Malaria Flagellated Organism

Dr. Patrick Manson (*Brit. Med. Jour.*, July 10, 1897) gives a simple method of making permanent preparations of the oval, spherical, and flagellated phases of the plasmodium, as follows:

Thirty or forty strips (3 inches by 1½ inches) of thick blotting-paper, each having an oblong hole (1 inch by 2-3 inch) cut lengthwise in its center, are prepared; they are then slightly, but sufficiently, moistened with water and laid in rows on a sheet of window-glass. A patient, in whose blood the crescent form of the malaria parasite abounds, is selected. His finger is pricked, and a minute droplet of blood, the size of a large pin's head, is expressed. A clean microscope-slip is then breathed on once, and the droplet of blood immediately taken up by lightly touching it with the center of the breathed-on surface of the slip. The blood is then rapidly, and somewhat unevenly, spread out with the needle so as to cover an area of about ¾ inch by ½ inch. Immediately the slip is inverted over the blotting-paper cell and pressed down sufficiently to secure thorough apposition of the slip to the paper, without at the same time bringing the blood into contact either with the moistened paper forming the wall, or with the glass forming the floor of what is now a very perfect moist chamber. The rest of the paper cells are rapidly covered with blood-charged slips, prepared in the same way. In from half to three-quarters of an hour the slips are removed and dried by gently warming them over the spirit-lamp—blood-surface away from the flame. When dry the films are fixed with absolute alcohol, a few drops being poured on each. After five minutes the alcohol is dried off and a few drops of weak acetic acid (10-per-cent. to 20-per-cent.) are laid on the film and left there long enough to dissolve out thoroughly all the hemoglobin. The slides are then washed in water and dried. They may then be stained with various reagents. So far, the author has obtained the best results from weak carbol-fuchsin (20-per-cent.) and prolonged staining. The stain is dropped on the slip and covered with a watch-glass; after from six to eight hours it is washed off, the slide dried and a cover-glass applied with xylol balsam. The staining, though sufficiently intense, is fairly transparent.

If the slips are removed and dried in from five to ten minutes after being placed on the blotting-paper cells, only crescents, ovals and spheres will be found; if they are left for three-quarters of an hour to an hour, free flagella, and what Ross calls spent pigment, may be found, the latter sometimes enclosed in phagocytes. Occasionally flagellated bodies are also found partially included in phagocytes. B.

A Case of Typhoid Fever in Which the Typhoid Bacillus Was Obtained Twice from the Blood during Life

Dr. E. Bales Block (*Johns Hopkins Hospital Bulletin*, Vol. VIII, No. 75) reports a case of typhoid fever in which, on the second day of the disease, he obtained from a vein in the forearm of the patient a hypodermic syringeful of blood, a few drops of which were allowed to fall on an agar-slant, and the rest of the blood was mixed with melted gelatin and placed in a Buchnar jar in the thermostat. The agar-slant subsequently showed one colony, while the gelatin tube, which contained a greater volume of the blood, showed about a dozen colonies, identical in appearance. Several of these colonies were grown in the usual culture-media. They did not coagulate milk, grew characteristically on Elsner's medium, showed no conspicuous growth on potato with increase of moisture; did not form gas in glucose-agar; were actively motile; did not liquefy gelatin, and morphologically resembled the typhoid bacillus.

On July 9 a second culture was taken by the same method. The volume of blood obtained was smaller than in the former culture, and was allowed to fall on agar-slant, which twenty hours later showed one colony. Inoculations of other media from this showed same reactions as in previous instance. In addition these bacilli did not produce indol; grew anaërobically; did not change the color of Wurtz medium; gave agglutinative reaction with over forty specimens of typhoid blood, and morphologically were identical with the bacillus obtained three days before. V.

On the Occurrence of Parasites in the Intestinal Canal of Negroes

It would seem from the investigations of W. Zinn and M. Jacoby, in *Berl. klin. Woch.*, XXXIII, 36, that the intestinal canal of the native African will prove a happy hunting-ground for parasites.. They investigated the stools of twenty-three negroes, eighteen from West Africa, two from East Africa, and three from New Guinea, and found therein:

21 times—Anchylostomum duodenale.
8 times—Trichocephalus dispar.
8 times—Ascaris.
4 times—Anguillulus stercoralis.
4 times—Teniæ.
2 times—Amebæ.

None of the negroes seemed to be suffering from anemia or other symptoms. From one child of 3 years both anchylostomum and trichocephalus were obtained.

The author presents the following summary:

1. The intestinal canal of the native African is rich in animal parasites.
2. Anchylostomum duodenale would seem to be a regular occurrence in the African negro.
3. The Charcot-Leyden crystals were almost invariably found, even when no parasites were obtained.
4. Secondary anemia would seem to be rare with the negro. This is probably due to accommodation.
5. The universal distribution of anchylostomum in the tropics should be borne in mind by Europeans and hygienic methods taken to prevent its further spreading.

J.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D., DAVID M. STÄBLER, M.D.

Characteristic Reagent for Salicylic Acid

Curci (*Suppl. al Policlinico*, III, No. 25) prepares his reagent by immersing 5 gme. of pure zinc in 30 c.c. of nitric acid, D. 1.4. When the production of red fumes subsides, the solution is warmed over a flame for a few minutes, and after cooling, is decanted and ready for use. The employment of this reagent affords a very easy method. Adding a few drops of it in a lukewarm solution of salicylic acid in water, a distinct violet coloration is produced, which persists indefinitely. Warming the solution so treated the coloration increases in intensity, and becomes intensely wine-red on boiling. With sodium salicylate the coloration appears without warming.

The presence of nitrous compounds in the salicylic solution lessens or prevents the violet coloration.

In preparing the reagent all the zinc employed must not be dissolved by the nitric acid, otherwise it is easily decomposed. So, with the rest of the zinc more reagent may be produced, with less nitric acid. The action of the reagent is appreciable even if the salicylic acid is in a solution of 1 to 60000. W.

Novel Treatment of Herpes Tonsurans with Formaldehyd

Dr. V. Solares, director of the Hospital for Poor Children, Barcelona (*Therapist*, VII, p. 75), has made local application of formaldehyd in twenty-five cases of herpes tonsurans in his pediatric clinic. The employment of the remedy was suggested by the well-known powerful antiseptic properties of formaldehyd, and its ability to prevent fermentation and decomposition of most organic substances. Dr. Solares now treats all parasitic growths, besides herpes tonsurans, by means of local spraying and washing with formaldehyd. The affected part is shaved, and then undiluted 40-per-cent. formaldehyd is applied daily by means of a brush or ordinary compress, which is allowed to remain for ten minutes; finally, the formaldehyd is sprayed on the part. After five applications the treatment is interrupted for several days, and at the end of a week a healthy growth of hair appears, it is stated. The application of formaldehyd to the hairy cuticle is relatively well tolerated. Some of the little patients complain of smarting, but, nevertheless, do not object to the treatment. A kind of edema appears in the face of some children treated with formaldehyd, especially where large surfaces have been so treated, and it is therefore necessary to inform parents of this temporary appearance beforehand, that they may not fear the outbreak of some new disease. If the herpes tonsurans covers a large surface, it is also better not to treat it all at once, but in three or four sections.

Brief Notes.

Parahemoglobin is said to be (*Pharm. Ztg.*, XLII, p. 381) a preparation made from blood and containing 5 per cent. of iron.

Anesin is an acetone chloroform that is easily soluble in water, and is found in the trade in the form of a 1- and 2-per-cent. solution. According to Dr. Vamossy (*Pharm. Ztg.*, XLII, p. 380), it is used as a local anesthet .

Present Status of the Antitoxin Treatment

Dr. Alexander McAllister, of Camden, N. J., in an article read before the New Jersey State Medical Association at the late meeting at Atlantic City, and published in the *Jour. of the Am. Med. Asso.*, July 24, 1897, expresses himself in very warm terms as favoring antitoxin in the treatment of diphtheria. He says that it is recommended by the great body of laboratory workers, endorsed by thousands of physicians both in hospital and private practice, welcomed by the common sense of all the people, and has become the most widely endorsed and most generally employed of all remedies. Though confronted from the first by the fiercest opposition, and materially retarded by the unbridled enthusiasm of some of its advocates, diphtheria antitoxin has, within the brief period of three years, proven itself to be specific in the full sense of that term.

He quotes from leading medical editorials and from recent text-books, among the rest the following from Emmett Holt's work on "Diseases of Infancy and Childhood": "Antitoxin is a specific remedy for experimental diphtheria in animals. Experience is now sufficient to justify the statement that it is specific in man, and just in the degree in which we can fulfill the conditions which are essential in experimental diphtheria. Gratifying as were the results with the serum treatment, they have been constantly improving, and there is every reason to believe that with larger experience, both in the preparation and the use of antitoxin, still better results will yet be reached. Certainly there is no remedy for any disease that has more testimony in its favor than has now diphtheria antitoxin." The doctor calls attention to the fact that the foregoing was written prior to the completion of the supplementary collective investigation on the use of antitoxin in laryngeal diphtheria made by the American Pediatric Society.

Continuing, he says it is interesting to note how many eminent medical men and promnent medical magazines, after opposing antitoxin, or treating it with stolid indifference, have joined the ranks of its advocates. The experiences of the last nine months, both in the employment of the remedy and the collective study of results, have been such and the evidence in its favor so overwhelming, that the physician who refuses to give the remedy a place in his medical armamentarium is not keeping pace with the progress of the age. Every legitimate objection to the remedy is fully overcome in the employment of concentrated serums such as were introduced during the spring of 1896 by the Mulford Company of Philadelphia, and which are now generally endorsed.

Regarding the opposition, it has been well said that there are to-day not more than three or four active opponents of the antitoxin treatment whose names were known to the profession before the introduction of the remedy. These have raised a great hue and cry and have rendered many physicians timid in the use of the remedy.

Speaking of the so-called fatalities from its use, he recalls that every other new remedy has had similar charges made against it. He mentions as notable instances, quinine, the coal-tar derivatives, morphine, ether, chloroform, etc. He calls attention to the fact that in the early days of hypodermic medication, it was common to attribute sudden death to the use of the needle. Even to this day, some communities will not tolerate the employment of the hypodermic syringe, because of this morbid fear.

It is admitted that five deaths followed the injection of antitoxin in a manner which cannot be satisfactorily explained. In three of these. the remedy was used for immunizing. In all these cases untoward symptoms appeared immediately upon injection of part or all of the serum, and death followed in from five to eight minutes. It is pointed out that virile germs and ptomains even when nurtured in an incubator are not capable of such results in small animals, much less in a human being. The total number of antitoxin injections already made is variously placed at more than two millions. In view of this large number, the five unpleasant cases, to say the least, are not satisfactorily explained. If it be conceded that there is an element of risk in the employment of antitoxin, this must be placed at one two-thousandths of 1 per cent., while the gain in recoveries ranges from 25 to 30 per cent. over all older treatments.

Ammonium Sulphocyanate is Not Poisonous

Dr. Heffter (*Quart. Therap. Rev.*, XV, p. 34), who has tested the sulphocyanate used in photography for its alleged toxic properties, declares them absent. Dr. Heffter proceeded cautiously, experimenting at first with animals before testing the substances on his own body. Cats and rabbits had various sulphocyanates injected in large doses into the blood and introduced into the stomach, and as they remained unharmed, Dr. Heffter boldly and safely swallowed a gme. (15 grn.) of ammonium sulphocyanate. Of course, the experiments were confined to the sulphocyanates ordinarily used in photography, and did not extend to the sulphocyanates of lead, barium, and mercury, which, containing for their base metals noxious to human health, are more or less poisonous.

Theobromine in Senile Asystole

Dr. E. Baronaki (*Med. Week*, V, p. 346) gives an account of the favorable results he has obtained with theobromine in cases of asystole, arising from senile degeneration of the myocardium. According to him, theobromine really constitutes the best treatment in this form of asystole, its action being less pronounced in the pulmonary or hepatic forms of senile cardiac asthenia. He has also ascertained that the action of this drug is particularly marked when it has been preceded by the administration of digitalis, which by itself remains without effect in the chronic asystole of old age. Dr. Baronaki has therefore adopted the following treatment for such cases:

The patient is put on an exclusive milk diet, and is then directed to take thirty drops of tincture of digitalis daily for four days in succession. The digitalis is then discontinued and 3 gme. (45 grn.) of theobromine given each day, in cachets of 50 ctg. (7½ grn.) each, every two hours. Diuresis is sometimes determined immediately in the evening after the administration of the drug, but more commonly on the following day.

The quantity of urine passed in the twenty-four hours may go up to 4, 5, and even 6 liters, this increase coinciding with the disappearance of the edema and of the uremic symptoms. When this result has been obtained, the theobromine is discontinued, prolonged use of this drug being apt to determine nausea, vomiting, vertigo, and general excitement. Potassium iodide may then be given and theobromine again resorted to later on, when the asystolic symptoms reappear, remembering always to administer digitalis for four days previously.

In certain severe cases, in which the action of theobromine had been rapidly spent and digitalis could not without danger be given too frequently, Dr. Baronaki succeeded in restoring the diuretic action of theobromine by bleeding the patient (withdrawing 200 gme. [6 fl. oz.] of blood), or by applying multiple needle-punctures to the swollen legs. Generally speaking, he has come to the conclusion that it is often possible, by the help of theobromine administered in this way, to prolong the existence of aged asystole subjects, who would to all appearances have succumbed to the very first attacks of cardiac asthenia under any other treatment.

[Probably the best form of theobromine to employ is theobromine salicylate, true salt, $C_7 H_8 N_4 O_2.COO.C_6 H_4.OH$.. Quite different from the ordinary compounds of theobromine, this salicylate is a perfectly stable salt, not altered by air, moisture, or carbonic acid.—ED.]

Picric Acid in Burns

I. V. Sila-Novitsky (*Bull. méd.*, XI, p. 687) has employed picric acid on the large scale in the cases of thirty-two children. The results obtained have been so good as to make him desire to see this method greatly extended. The writer applied compresses wet with a solution of 2.5 gme. of picric acid in 500 gme. of water, dissolved by the aid of a little alcohol. The dressing may be allowed to remain in contact with slight burns for four to six days, in which time they are cured. In serious cases, or if by chance the compresses are not tolerated, the dressings must be renewed. The writer has observed a relatively rapid cure in serious cases where suppuration was abundant. He contends that the picric acid exerts a marked analgesic action in the majority of cases.

Urea as a Diuretic

Dr. C. Beckert (*Wien. med. Presse*, XXXVIII, p. 910) gives a report on the employment of urea as a diuretic in a number of cases. In 7 cases no effect was had; in 11 cases an increase, more or less, was observed in the diuresis, and in fact up to 420 per cent. In these, positive results were obtained in 4 cases of peritoneal affections out of 6; in 2 cases of heart-failure out of 5; and in 4 cases of liver-affections out of 6. The results obtained lead the writer to the conclusion that urea, given per os, is capable, under certain conditions, of exerting a powerful diuretic effect; for instance, when any collections of fluid are present in the body. Its action appears to be exerted only on the kidneys, hence these must be intact. Long-continued exhibition appears to cause a habit, the activity then decreasing. No disagreeable by-effects were ever noticed from daily doses of 20 gme. (5 drs.). The writer agrees with Klemperer in recommending urea as one of the foremost remedies in hepatic cirrhosis, and considers it, besides, as valuable in the ascites of tuberculous affections.

Ichthyol in Blepharitis

Darier (*Brit. Med. Jour. Epit.*, No. 1907, p. 12) recommends the following ointment for application in cases of blepharitis:

Ichthyol	1 part
Powdered Starch	10 parts
Zinc Oxide	10 parts
Vaselin	50 parts

Its use has to be continued for some time, alternating, if necessary, with the application of silver nitrate, etc. In bad cases a little pure ichthyol may be smeared on the swollen lid-margins at night, the lids being well washed with boric-acid lotion in the morning. While ichthyol diminishes congestion it does not seem to diminish the conjunctival secretion, and where this is marked, silver nitrate is called for. In rebellious phlyctenular keratitis with much vascularization, Darier has obtained good results by introducing daily a minute portion of pure ichthyol into the conjunctival sac. This causes some smarting, which, however, passes off in about ten minutes.

Treatment of Coryza

During the first two or three weeks of a coryza the most useful of all the preparations, according to Herbert B. Whitney (*Med. News*, No. 1254, p. 100), is a snuff, the principal ingredients of which are cocain and menthol:

Cocain Hydrochlorate	2½ grn.
Menthol	4 grn.
Boric Acid	½ dr.
Powdered Coffee	8 grn.

Of this, a small pinch is directed to be taken in each nostril every three or four hours. It gives great temporary relief. This snuff may also be used with benefit after there is an abundant catarrhal secretion. It may, with advantage, be combined with the internal use of gelsemium, or, later, with atropin.

Another good method for the local use of menthol has recently been strongly urged by R. Wünsche. He prescribes the following:

Menthol	½ dr.
Chloroform	5 fl. dr.

At the first indication of coryza—such as sneezing and frontal discomfort—4 or 5 drops of the above mixture are quickly rubbed over the palms of the hands, the latter held like a cone over the nose and mouth, and a few deep inhalations are taken. It is claimed that all tendency to sneeze at once ceases, and the coryza is almost invariably aborted. For additional surety, it is recommended that the inhalation be repeated two or three times in the course of the following day. Wünsche has also found that these inhalations are a good prophylactic against influenza, and calls attention to the experiments of Rönicke, which seemed to demonstrate the marked germicidal action of menthol fumes. The great benefit to be derived from menthol in various affections of the upper air-passages, as appears from the many recommendations which have come from different sources, certainly warrants an extended trial of this remedy in acute coryza.

Camphor is another drug that has for a long time borne the well-deserved reputation of being serviceable in this disease. At Bamberger's clinic, in Vienna, the routine treatment of the first stage of coryza is this snuff:

Powdered Camphor	2 dr.
Powdered Sugar	2 dr.

A small pinch in each nostril every two hours.

F.

Urotropin in the Treatment of Cystitis with Ammoniacal Decomposition

Professor Arthur Nicolaier, M.D., of the University of Göttingen in *der Aerztliche Praktiker*, X, 1897, No. 12, gives his results in the use of urotropin for two years. This preparation is a combination of formaldehyd and ammonia, and is, chemically considered, hexamethylentetramin. It is a weak base, white, crystalline, readily soluble in water, but soluble with difficulty in alcohol. Its aqueous solution has a pleasant, sweetish taste, and can be identified by giving an orange-yellow precipitate with bromine-water. It can be given in daily doses of from 0.5 gme. (7.5 grn.) to 1.5 gme. (22.5 grn.) Larger doses than the latter, if given at once, are likely to produce a burning sensation in the vesical region after urination, and induce a desire for frequent micturition. By diminishing the dose these symptoms disappear. It has proven itself of great benefit by curing cases of cystitis, where the urine remains acid, and cases of gonorrheal cystitis, but its best effects were had in cystitis with ammoniacal decomposition, in which cases the author strongly recommends its use to his professional brethren. He usually treats such cases with 0.5 gme. (7.5 grn.), dissolved in half a pint of plain or carbonated water, three times a day, after meals, for two days, after which he only gives it twice a day. Under this treatment the ammoniacal smell of the freshly voided urine diminishes and soon disappears, the reaction becomes acid, the serious troubles so frequently caused by the abnormal constitution of the urine, cease. Under its use the urine soon becomes clear, the number of pus-corpuscles seen in it are less, and finally disappear. The urotropin does not act by killing the fermenting micro-organisms, but by preventing their development. Urotropin has been successful in cases which had failed to gain relief from large doses of sodium salicylate. The severest cases of cystitis have given way to this remedy.

Preservation of Creosote

It is reported (*Pharm. Post*, XXX, p. 304) that beech-wood creosote is best preserved by exposing it, in glass-stoppered bottles, to direct sunlight. Kept in such a manner, it loses any color it may have had, and becomes perfectly colorless, and the reddish coloration it is liable to, is, by this simple means, entirely avoided.

Clear Mixture of Cod-liver Oil and Creosote

According to H. Wyatt (*Chem. and Drug.*), creosote, unlike guaiacol, does not give a clear solution in cod-liver oil. To try and get a clear solution, he dissolved the creosote in an equal bulk of absolute alcohol before adding to the oil, but with no better result. A mixture of castor-oil and creosote was then tried, with the same result. On further trial it was discovered that creosote, castor-oil, and absolute alcohol, in equal proportions, mix perfectly clearly with cod-liver oil in any amount.

Cancer Treated With Extract of Chelidonium

Recently Denissenko recommended the extract of Chelidonium majus in the treatment of cancer, and it has, therefore, been tried, and up to now, with more negative than positive results. Dührssen (*Deutsche med. Woch.*, 1896, No. 49) gives a record of a case of inoperable vagino-uterine cancer, in which its use was entirely valueless. On the general condition, the remedy appeared to exert a very unfavorable effect; the resulting pains, fever, and loss of appetite being traceable to it. He therefore utters a caution not to jeopardize the patient's chances of recovery by placing reliance on any other means than the surgeon's knife. The preparation in question is an aqueous concentrated extract of the sap from the stems of Chelidonium majus, and it forms a homogeneous, viscid, dark fluid of an oily lustre, and possesses a rather pleasant, acidulous odor. A preparation having a greenish shimmer, granular consistency, and acid, unpleasant odor is therapeutically valueless.

The extract may be given internally in the following form:

Aqueous Extract Chelidonium.... ⅜ gme.
Distilled Water.............. ..100 gme.
Peppermint-water.......... ....100 gme.

To be taken within the period of two days. The commencing dose of the extract is 1.5 gme., and this is increased daily by 0.5 to 1 gme., until 4 gme. are taken. Five gme. may be given only to stout and robust individuals. Besides this the writer makes an injection of the following solution, into the healthy tissue near the cancerous centers.

Aqueous Extract Chelidonium.... 10 gme.
Distilled Water.................. 10 gme.
To be used as an injection.

The solution is heated to the boiling-point for from three to five minutes before being used, and is injected in quantities of 0.5 to 1 c.c. F.

Tannalbin in Children's Practice

Dr. Johann Czemetschka, of Prof. Ganghofner's clinic, gives a tabular report (*Prag. med. Woch.*, Nos. 25, 26, and 27, 1897) of the use of tannalbin in thirty-three cases, comprising fifteen of acute intestinal diarrhea, fourteen of chronic intestinal diarrhea, and four of intestinal diarrhea accompanying tetanus, spasm of the glottis, and rhachitis, all occurring in children. Of these, eleven out of the fifteen cases of acute intestinal diarrhea were cured, and four greatly benefited; and out of the fourteen cases of chronic intestinal catarrn, ten were cured and four were improved. The remaining cases were unaffected by the tannalbin; but this was to be expected in view of the comparatively unknown causation of the diarrhea of tetanus, glottideal spasm, and rhachitis, and which may, perhaps, be of specific origin. The powder was eagerly taken by the children, without in the slightest degree causing any untoward gastric symptoms. In no case was any diminution of the appetite observed, from which it may be rightly inferred that the stomach remains unaffected even by long-continued medication —a fact of particular value in the case of nursing infants who are frequently subject to dyspeptic disturbances in conjunction with those of intestinal origin.

The best results were obtained by doses of 0.2 to 0.3 gme. (3 to 5 grn.) three to four times daily for children up to 3 months of age; 0.5 gme. three to four times daily, or oftener, if necessary, for children up to 10 years of age.

Euquinine Therapeutically

Further particulars are now to hand regarding euquinine, brief mention of which was made on page 215 of the current volume of the BULLETIN. Euquinine is, as already stated, a quinine derivative, obtained from the latter by the action of ethyl chlorocarbonate. It occurs as white, delicate, acicular crystals, that melt at 95° C., and are difficultly soluble in water, but easily so in alcohol, ether, or chloroform. Its especial value consists in its tastelessness and freedom from the by-effects that accompany the administration of quinine.

The remedy was employed by Dr. Goliner, of Erfurt (*Allg. Med. Centr. Ztg.*, 1897, No. 19), in a number of cases of pneumonia and phthisis, in all of which the remedy exerted a beneficial effect, rapidly reducing the fever.

The writer also employed euquinine in a number of cases of influenza, in which symptoms of nervous affections accompanied those of bronchial, cardiac, and gastro-intestinal origin. The patients were given 2 gme. (30 grn.) of euquinine, as a rule, immediately after the first attack of influenza, and the dose repeated at three-hourly intervals until euphoria was observed. The results were satisfactory throughout, the neuralgic and rheumatoid pains being immediately relieved. The writer believes that, in the nervous form of influenza, euquinine is preferable to all other remedies, on account of the absence of all the disagreeable by-effects that accompany the exhibition of phenacetin, antipyrin, acetanilid, etc. In doses of from 0.2 to 0.5 gme. (3 to 8 grn.), taken in sherry, the remedy is well borne, even by children, who can scarcely be made to take quinine.

Excellent results were also had in numerous cases of acute, febrile, articular rheumatism with cardiac complications. Dr. G. Luce believes that euquinine is a valuable substitute for quinine, and that it will soon occupy a permanent place among remedies, on account of its pronounced anti-pyretic and anti-neuralgic properties. F.

REVIEWS

The Normal and Pathological Circulation in the Central Nervous System: Original studies by William Browning, Ph.B., M.D. Published by J. P. Lippincott Company, Philadelphia. $1.50.

An interesting collection of experimental and clinical studies is presented in this volume by Dr. Browning, as the result of a number of years' work on the central nervous system. Some of the contributions have appeared before, but many are new, and all are the product of personal experiment and experience. The work is none the less valuable for its modest lack of pretension. It contains no treatises, no generalizations, and claims no discoveries; but it gives in a series of clearly written sketches the practical experience of an observant and progressive man. They bear the marks of a critical study of the more recent German work along the lines indicated; but at the same time have an originality in application that makes them valuable as fresh material.

Hints for the Surgeon and General Practitioner.—By Howard Lilienthal, M.D.. Assistant Attending Surgeon to Mt. Sinai Hospital, New York City. New York: International Journal of Surgery Company, 1897. Price 25 cents.

In writing this little book the author's aim has been to present a number of observations and suggestions whose value has been thoroughly tested at the beside and in the operating-room. A review of its pages will show how much practical information he has conveyed within a small compass, and this he has been able to do by eschewing all superfluous verbiage and by writing clearly and to the point. The material is well arranged, the typography is excellent, and the little volume is of convenient size to be carried in the pocket and perused at leisure moments.

In presenting this book to the profession the author has contributed a valuable addition to the realms of surgery. The recent luminaries to the profession will often be grateful to the author for to them practical suggestions are always thankfully received.

The Year Book of Treatment for 1897: A review of medicine and surgery, critically compiled and condensed. The staff of contributors remains as in the editions of former years, twenty-six being named. Various sections are assigned to these gentlemen, Dr. Gustave Schorstein editing the section on Diseases of the Lungs and Respiratory Organs; Dr. Francis D. Boyd that on Kidneys and Diabetes, while Prof. Nestor Tirard makes the summary of general therapeutics. Lea Bros. & Co., New York and Philadelphia.

The thirteenth issue of this valuable summary gives the gist of what is new. The authors of the various departments are well-known men of Great Britain. The portion devoted to the medical treatment of the diseases of the viscera holds the first place in the book. A considerable space is given to the advances in surgery and a fair consideration is bestowed upon the subject of anesthetics which we wish might have been enlarged upon.

The portion considering the diseases of children is peculiarly rich in suggestions and methods of infant-feeding. Pasteurized milk is generally held to be preferable to sterilized milk. Antisepsis in gastro-intestinal disease finds favor and the use of salol and naphtalin is recommended but whatever the agent the dose is the smallest possible and administered at short intervals.

The improvement in diphtheria mortality is undoubted by the use of anti-toxin. This must be administered early and the apparent ill effects as sequelæ are duly considered.

As to tuberculous glands the earlier removed the greater the safety of the patient. Their relation to dental caries is not lost sight of.

The work closes with a summary of the therapeutics of the year 1895-'96. No one can afford to miss a careful study of this book.

Mitteilungen aus den Hamburgischen Staatskrankenanstalten.—Herausgegeben von Professor Dr. Lenhartz, Director des Alten Allgemeinen Krankenhauses, Professor Dr. Rumpf, Director des Neuen Allgemeinen Krankenhauses, sowie, den Aerzten der Anstalten, unter Redaction von Professor Dr. Rumpf in Hamburg-Eppendorf. Band I, Heft 2 und 3. Verlag von Leopold Voss in Hamburg.

It is but very seldom that hospital reports reach us which in general interest and variety of the contributions, in intrinsic scientific worth and in excellence of illustration even remotely approach the "Reports of the Hamburg State Hospitals." In all these points the latter would compare favorably with the most pretentious monthly, or even quarterly journal of medicine and surgery. In a short review it is, of course, impossible to present a criticism of all or of any of the articles, but an enumeration of the titles of the more noteworthy contributions should suffice to show that our praise is not extravagant.

In Heft 2 the following papers deserve notice: 1. The Employment of the Permanent Waterbath in the New General Hospital at Hamburg. The experiments with permanent immersion in water for periods of several months, in such diseases as general decubitus, affections of the central nervous system, senile marasmus, in extensive tuberculosis of the bones and joints, in phegmons, gangrene, in fecal and urinary fistulæ and in burns of the second and third degree, are extremely interesting and deserve a careful perusal, especially by physicians connected with a hospital. 2. Cholelithiasis and its Treatment by the Ideal Extraperitoneal Method. 3. A Case of Multiple Hydatids of the Muscles and Viscera. 4. Prolapse of the Female Urethra. 5. Surgical Treatment of Tumors of the Cerebellum. 6. The Ambulatory Treatment of Fractures of the Femur. 7. A Case of Distoma Hematobium Bilharzii (illustrated with colored plate). 8. A Contribution to the Study of Endocarditis. 9. Rare Fractures as Seen by the Roentgen Rays (with ten skiagrams).

Heft 3 contains the following valuable articles: 1. Smallpox or Chicken-pox: A contribution to the diagnosis of chicken-pox in adults, with three plates. 2. A Case of General Vascular Neurosis with Peripheral Gangrene (Raynaud's Disease), with colored plate. 3. Anthrax of the Lungs; an exhaustive article on the subject, with report of a case. 4. Beri-beri. 5. A Case of Varicose Veins on the Stomach-wall. 6. Changes in the Form of the Trachea. 7. Acute Primary Polymyositis. 8. A Contribution to the Morbid Anatomy of the Pancreas in Diabetes Mellitus. 9. Pathologico-Anatomical Investigations of Puerperal Eclampsia. 10. A Case of Stab-wound of the Diaphragm. 11. Acute Intestinal Hernia at the Linea Alba. 12. The Treatment of Inguinal Buboes by Aspiration. 13. A Case of Hereditary Syphilis Complicated with Acute Gangrenous Pemphigus Caused by the Staphylococcus Pyogenes Aureus. 14. Primary Chancre of the Gums. 15. Diseases of the Eye in the Early Stage of Syphilis (with plate and eight illustrations): 16 Puerperal Neuritis.

Comparisons are odious, but we cannot help making the following reflection: How long will it be before the bulletins of Bellevue Hospital and of our other municipal and State Institutions will be so replete with original scientific matter as to deserve a permanent place in medical literature?

M.

A Text-book of Diseases of Women.—By Charles B. Penrose, M.D., Ph.D., Professor of Gynecology in the University of Pennsylvania. Royal 8vo, illustrated, pp. 529. Philadelphia, W. B. Saunders, 1897.

"I have written this book for the medical student. I have attempted to present the best teaching of modern gynecology, untrammeled by antiquated theories or methods of treatment. I have, as a rule, omitted all facts of anatomy, physiology, and pathology which may be found in the general text-books upon these subjects. I have in most instances recommended but one plan of treatment for each disease, hoping in this way to avoid confusing the student or the physician who consults the book for practical guidance." Thus writes Dr. Penrose in the preface of his work, and after examination it will be found that the lines thus indicated have been carefully followed.

Although numbered serially, the chapters naturally group themselves into sections devoted to the consideration of the diseases and injuries of the external genitalia, of the perineum, of the uterus, of the adnexa, and of the bladder. The amount of space devoted to each subject varies with its relative importance, and thus gives a good perspective of the entire field under consideration.

The chapters devoted to the repair of the perineum, the correction of uterine displacements, the operations upon the cervix, the subject of tubal pregnancy, and the treatment of cystic ovarian tumors are worthy of especial commendation.

The chapters upon malformations, the menopause, and menstrual disorder are too meagre and receive less attention than the importance of the subject demands.

The point of view of the writer is pre-eminently that of a surgeon, and as a consequence stress is laid upon the operative treatment of disease. The general technique of gynecologic operations is described, and, besides the accurate descriptions given of the minor operations, already mentioned, there are chapters devoted to the treatment after celiotomy, and to the special technique of operations upon the uterus and the uterine appendages. The successive steps of these various operative procedures are rendered more clear by the use of numerous illustrations.

◆

The managers of the Hospital of the Baltimore University School of Medicine are said to have decided upon excluding alcohol and alcoholic remedies from that institution. The faculty of the college all agree upon the desirability of this move and declare, according to press reports, that alcohol does more harm than good to the sick who use it. Dr. Beidler, one of their number, is reported as saying that there are many good substitutes for liquors in such remedies as carbonate of ammonia, spirits of ammonia, strychnia, digitalis, and nitro-glycerine.

CORRESPONDENCE

Homeopathy

To the Editor of the A. M.-S. BULLETIN:

In continuation of my former communication that only partly replied to you, permit me to say that, aided by our law, we claim, and we certainly *know it to be true*, that we can with the smallest quantity of drug and the least risk and discomfort to the patient, secure results far more satisfactory than have yet been achieved without the aid of this guide; and we are prepared to demonstrate this claim by the most undisputed and indisputable statistics.

(d) If you doubt who was responsible for Hahnemann and his followers leaving the ranks of the "regular" profession, I would refer you to the brief sketch of his life found in the *American* (Appleton's) *Cyclopedia*, or to any biography of Hahnemann or history of homeopathy, of which there are many. In addition to this, allow me to quote from the leading article in your own journal of March 10, 1896 (to which I referred in my former letter), entitled "Medicine—A Science or a Pathy?" as it states the case in better terms than I could have done it myself.

"The whole controversy suggests the question whether medicine is wholly a science, or whether it is a 'pathy'—a trades-association controlled by fixed laws of procedure and of action, to which its members must subscribe, and the infringements of which leads to expulsion from the association. At the time when Hahnemannism was first suggested and the few ardent experimenters undertook to sustain the dictum of *Similia similibus curantur*, the narrow action of the regular society forced them out and compelled them to practice under an independent organization. Had ordinary scientific rules been applied, had the utmost liberty been allowed for the study and application of this method of practice, had these men received the encouragement that they should have received to accurately record the results of their practice, there would have been no distinct sect at the present time, and undoubtedly both regular medicine and homeopathy would have profited by the result. It is useless at the present time to make the statement that there is nothing in homeopathy as practiced to-day. Years of experience have led this school far from the original dictum of Hahnemann. There are few, if any, who are still practicing according to the old methods." [We certainly claim to be progressive, and while we have advanced far beyond what Hahnemann saw or taught, we still are very far from abandoning the law of *Similia*.]

"If medicine is a science, the portals should be thrown wide open to every investigator. Let him experiment in any way he may, urge simply that he give the world the benefit of his results, honestly compiled and honestly told. Break down the barriers that exist between medical sects in favor of medical science. Let us have less politics and more humanity in dealing with these subjects."

These are grand and noble words, worthy to be written in letters of gold. They are an honor to the man who uttered them and, it seems to me, can hardly fail to awaken a responsive *amen* in every honest breast. If, however, it is intimated that medical intolerance is only a thing of the past, we have but to point to the attitude of the American Medical Association toward the Medical Society of the State of New York, and to maktitudes of examples on every side, too numerous to provoke remark.

You state in your editorial article, to which I took exceptions, that "At no time has any new method of treatment been forbidden by 'regulars.' * * * We sometimes use the same remedies as they do, and never surreptitiously." My dear sir, I am sure that you must know that he must be a courageous member of one of your societies who would dare to stand up and admit that he ever treated any of his cases homeopathically, or had even acquainted himself, candidly, with our principles or practice. There are many of the more progressive and liberal members of your school who feel as does the former editor of the BULLETIN, from whom I quoted above; who are sick of occupying the absurd and bigoted attitude which your "code" compels you to maintain toward us, but who are still pitiably afraid to say so or to recognize us as physicians and equals in public or before their fellows. The public see these things, and no argument can convince people at large that such conduct is liberal or worthy of scientific gentlemen.

We do not object to such treatment, on the whole, because it benefits us and only injures you. As to the use of our remedies, we are well aware that you use them very often; remedies which we discovered, introduced, and have used, some of them for a century; but never have I seen any acknowledgement of such indebtedness. You sometimes change the name and introduce them as "new remedies," *e. g.* hepar sulphur, rechristened calcium sulphide, and nitro-glycerine, which our Hering introduced to us at least thirty years ago under the name of glonoine. A great deal of your best treatment is and could easily be demonstrated to be a crude kind of homeopathy, but you are all apparently unconscious of this, at least it does not seem to modify the contempt so generally entertained and expressed for homeopaths, especially by those who have just achieved the dignity of a "brand-new" M.D. from one of your colleges.

By the way, why do you so strongly object to the designation "Allopath," which, I believe, was claimed for convenience by our good Father Hahnemann, but which you unkindly repudiate as a "lying title"? A homeopath is one who chooses a remedy which produces symptoms *similar* (homoios) to the disease (pathos). Now, do you, or do you not choose your remedies according to this rule? If you do, then you are homeopaths; but if you do not, but rather because they produce *different* and generally *opposite* effects or symptoms to those of the disease, then you must be allos-pathos, *i. e.*, *different-from-the-disease* doctors. I cannot see how you can avoid being the one or the other. If you have, as you say, a therapeutic law, and are *not* governed entirely by empiricism, I cannot understand what your law can be unless it is allopathy or the rule of selecting a remedy which produces different symptoms. I do not see why this designation should be considered opprobrious or a "lying title," for it is as nearly the oposite of homeopathy as one could be.

But I must close. I do not stop because there is not much more I would like to say, but I fear I have overtaxed your patience and your space. I myself abhor "long-winded" articles, and have tried to be as brief as possible. I have not meant to be discourteous in what I have said, and I venture to hope the space which has been thus occupied (if you see your way clear to give it), will be in the interests of a better understanding and in the interests of non-sectarianism in medicine. I believe I have stated nothing which is not capable of defense and demonstration, and I will only add this one further statement. After an observation of medical men and their practice extending over at least thirty years, I am convinced and do not hesitate to assert that the homeopathic branch of the medical profession is composed of as cultured, high-toned, and honorable gentlemen (and ladies), as well educated in their profession, as devoted to the best interests of their patrons and of medical science, as good citizens and as worthy of, and commanding as much of the respect and confidence of the best people among whom they live, as any class of medical men on earth.

Homeopathic physicians have never made war upon other physicians, but have been compelled incessantly to stand on the defensive for the preservation of what rights have been accorded, grudgingly, to them, and persistently pushing for the securing of even a very meagre recognition before the public and in public institutions.

I believe I am decidedly within the facts when I say that fully one-third of the taxes in our larger cities and towns is paid by our patrons, yet when we ask a very small share of the hospitals and asylums supported by these taxes to be placed under our control, so that the beneficiaries of such institutions may be treated according to their preferences, it is looked upon as a monstrous invasion of the rights of the "regulars." The public have been assured that "all homeopaths are either fools or knaves" until they are weary. We have been called "quacks" and "irregulars" and ignored and tabooed by those who assume to be "the whole thing," until this spectacle of a so-called learned and liberal profession exhibiting such an illiberal and narrow spirit toward those every way their peers has produced the public sentiment which you lament. How can it be corrected? Yours very sincerely,

ALBERT G. BEEBE.

Chicago, Ill., Sept. 20, 1897.

According to the *Medical Age* the diploma that makes a doctor of the Prince of Wales reads as follows:

"*Sciant omnes nos:* Samuelem Wilks, Baronettum, Medicinæ Doctorem et Presidentem Collegii Regalis Medicorum Londinensis, una cum consensu Sociorum ejusdem Collegii, auctoritate nobis a Domine Rege et Parliamente concessa, in Societatem nostras, honoris causa, cooptaise virum illustrissimum Albertum Edwardum, Walliæ Principem, Corombiæ Ducem, Nobilissimi Ordiris Periscelidis Equidem. In cujus rei fidem et testimonium Sigillum nostrum commune presentibus apponi fecimus. Datum Londini in Collegio nostro die vicesimo nono mensis Julii, annoque Domini millesimo octingentesimo nonagesimo septimo."

An irregular practitioner has come all the way from India to treat Mr. Charles Broadway Rouss, the New York millionaire blind merchant, for his sight. Mr. Rouss has hitherto refused to let anyone treat him for his affliction except by proxy. He has another blind man whom the would-be healers must practice upon. If they cure the proxy then he will let them try their skill on him. This new man from Hindostan refused to accept the substitute patient and persuaded Mr. Rouss to make an exception on this occasion. He has promised complete restoration of sight within a limited number of days. At the end of the first few days of treatment Mr. Rouss thought he could dimly see a hand before him, but a week later there were no further signs of improvement. Only external applications are used. The would-be healer says that Mr. Rouss' faith is failing him.

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Editor: ROBERT G. ECCLES, M.D.

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EDITOR'S NOTES

Our attention has been called to the fact that the present law of the State of Massachusetts demands an examination from every medical man who proposes to practice in that commonwealth, whether he has a diploma from a recognized college or not, and whether he is licensed by some other State Board or not. The fee for the examination is $20.00. In our last issue we gave a list of the laws governing the practice of medicine in the various States, which we copied from the *Virginia Medical Semi-Monthly*. This list gave the old law governing Massachusetts, and is therefore no longer correct.

The *New Orleans States* is wild over the proposal to have a National Board of Health. It is warning the people of Louisiana against the danger of any such innovation and predicts dire consequences to their industries if they permit the Federal Government to have anything to do with the health affairs of the State. The editor holds that the Board of Health of the State is enough for them, and that this new proposal, if not directly due to the merchants of the Eastern seaboard, would be a great affair for them, but death to the maritime interests of the cities along the gulf. He more than hints that the whole proposal is a yankee scheme to rob them of their rights. He evidently has but little respect for Surgeon-General Sternberg or his diagnostic skill. It is strange how, apparently sensible people, will rant about things upon which they are ignorant, and in a manner that is likely to result in their own undoing. Let this editor study up the facts bearing upon the problem of a Federal Board of Health, and he will be likely to soon change his mind and his attitude. The quarantining of our ports against contagion from abroad would be but a small part of the work that such a board would be expected to perform. We hope that the medical men of Louisiana will use their influence toward the establishment of a National Board, not only for the benefit they will reap in getting rid of the annoying shot-gun quarantines that have paralyzed business in that region, but for the greater benefits that it can bring in studying the movements of disease, as we now study meteorology, and in enabling us in time to wipe some diseases from the earth. By all means let us have a National Board of Health.

The *Times-Democrat*, of New Orleans, has taken a wiser view of the matter than its contemporary, and foresees a more cheerful outcome from our having a National Board. It says: "We have given to the Federal Government the protection of our coasts from the attacks of an enemy. We need but confer on it the right to protect us from a still more dangerous enemy than him who comes with shot and shell—disease. The quarantining system is a necessary part of our coast-defense and should be given in the hands of the Federal Government." Let us have a National Board of Health.

Our New York and Philadelphia contemporary, the *Daily Lancet*, in its issue of Oct. 12, gives Lawson Tait the credit for a most valuable and ingenious surgical device for agglutinating the ends of bleeding arteries and doing away with the use of ligatures. Honor should be given where honor is due. Lawson Tait's device is practically the same as that of Professor A. J. C. Skene, of Brooklyn, and which Professor Skene has been using in a form far superior to that of Tait for three years. A full description of it was given in the *New York Medical Journal* for March 27, 1897. It is an improvement on Keith's method of treating the pedicle in ovariotomy, which Dr. Skene learned from Keith nearly twenty years ago, and that in its present improved form can be used in all surgical operations. The new forceps are so constructed that they carry a current of electricity with safety to the mass containing the bleeding vessels, and while under firm pressure rapidly dries it without charring. The temperature used is between 170° F. and 190° F., and the current from a small storage battery is quite powerful enough to answer. The process is thoroughly aseptic.

Our English cousins have coined a new barbarism that they propose to inflict upon English-speaking people. It appears to have been a growth of the late meeting of the British Medical Association at Montreal. Wishing to avoid giving offence to the Canadian medical men, the true Britons would not call us Americans, for are not Canadians as much Americans as we are? To relieve themselves of this dilemma they must needs coin a new name, and so hereafter we are to be known as "United-Statestians." So at least we are informed by the *Practitioner*. The October number of this journal likewise tells us that the Montreal meeting was saved from being swamped by "Yankees" (i. e., United-Statestians) by the care that was taken to avoid it. Unfortunately, however, this did not satisfy them, for we are told that "one gathers from our American friends (Which? The Canadians or the United-Statestians?) that the success of the meeting was mainly due to tneir presence in considerable force."

After the war almost every second man one met had to be addressed as colonel or captain. The new medical war is bringing forth its crop of titled gentry among physicians. If matters go on in the same way as now for a few years more every other medical man will feel insulted if called "doctor." Nothing short of "professor" will suit them. It seems to have about reached this pass already in Kansas City, as they are leading the race for the rest of the country in this direction. According to the latest reports from that region, as given in the September number of our interesting contemporary, *Langsdale's Lancet*, there were only nine medical colleges in full blast there. More, of course, are coming, and will arrive soon. That is a good and unobjectionable way to advertise one's self. Crowd the ranks of medicine as fast as possible. Intensify the struggle for existence. Scuttle the good ship and save the wreckage. We may soon reach ten-cent calls in this country if a halt is not soon called.

PUBLISHERS' DEPARTMENT

ANGIER'S PETROLEUM EMULSION

It is well-known that petroleum possesses decided medicinal virtues, but owing to its unpleasant taste it has never received the attention it deserves. This difficulty has been overcome by the Angier Chemical Co., in their preparation known as Angier's Petroleum Emulsion. This is a thoroughly palatable combination of petroleum and the hypophosphites, which has been highly recommended by leading physicians. It is chiefly indicated in affections of the respiratory tract.

WHEAT AS A FOOD

Wheat contains all the nutrient principles which enter into the composition of the human body. Modern methods as applied to the manufacture of the white flour of to-day have robbed it of many of its nutrient principles. The percentage of water is less in flour of the entire wheat, but the percentages of proteids (gluten), fats and phosphates, are larger than in the best white flour, while the percentage of carbohydrates (mainly starch) remains very nearly the same. Bread from this flour of entire wheat is palatable, and far more sustaining than any white bread. If your dealer does not keep the flour manufactured by the Franklin Mills Co., of Lockport, N. Y., notify them and they will have you supplied.

FORMALDEHYDE DISINFECTION

An article that is being read with interest by those studying formaldehyde disinfection is that of Dr. Alvah H. Doty, Health Officer of the Port of New York, in the New York "Medical Journal" of October 16th. Dr. Doty gives a detailed account of his tests and shows in the most conclusive manner the effects of formaldehyde gas upon the most virulent cultures, under widely different conditions of exposure. Not only were the tests most varied in character, but the different lamps for securing formadehyde gas were also thoroughly tested, and Dr. Doty in his chapter of conclusions sums up by saying that of the different methods tried, the Autoclave of Trillat, using formochlorol, was the most successful.

This opinion, resulting from Dr. Doty's tests, should be very gratifying to the purveyors of the Trillat system, Messrs. Fries Bros., of New York.

THE McINTOSH CATALOGUE

The McIntosh Battery and Optical Co., of 521–531 Wabash Avenue, Chicago, Ill., have issued a catalogue which must prove of value to those who are interested in batteries and electro therapeutical appliances. This is more than a mere price-list, it is a practical treatise on electro-therapeutics.

DIPHTHERIA ANTITOXIC SERUM

We have received from H. K. Mulford, of Philadelphia, Pa., a brochure on "The Present Status of Diphtheria Antitoxic Serum." It outlines the preparation of Diphtheria Antitoxic Serum, Method of Treatment, Supplementary Treatment, and Immunization. It also presents a brief review of the Antitoxin Treatment as found in recent text-books, etc. The H. K, Mulford Co. will send a copy to any physician upon request.

NEWS

Professor Hobart A. Hare, of Philadelphia, has just passed through a severe attack of typhoid fever. He has been laid up for several weeks.

A Paducah, Ky., doctor is being sued for $10,000 damages by a patient who claims that the doctor has caused him to lose the sight of one eye by using the X-ray upon him.

Mr. Ernest Hart, the able editor of the *British Medical Journal*, has lately had the misfortune to be compelled to have one of his legs amputated. He is reported as doing well. As he suffers from diabetes, his friends were very much afraid of the results.

A Cincinnati man who is said to be worth $100,000 and who requires the constant attention of a physician, was lately detected entering his private carriage a block away from the hospital where he was receiving free treatment. He was threatened with arrest if he should return again.

An Asheville, N. C., man named Miller has sued a doctor of that place for $500 for not returning a leg of his that was amputated five years ago. For such failure and refusal to return the leg he alleges that he has been deprived of the comfort and satisfaction of having his leg decently interred.

Dr. Abbot, of the Massachusetts State Board of Health, is in possession of the first scientific essay on malaria in Massachusetts. It was written by Oliver Wendell Holmes in 1836 as the Boylston prize essay, and is entitled "Facts and Traditions Respecting the Existence of Indigenous Intermittent Fever in New England."

The *Commercial Tribune* of Cincinnati, O., says that the consumptives of Branch Hospital, where such patients are isolated by the Board of Health of that city, enjoy themselves by playing at quoits. They divide up into teams called right lung and left lung, according as their disease is least prominent in the right or left side.

The St. Louis Medical Society still keeps up its plan of having every meeting conducted as a symposium in which many doctors take part by division of labor and working up a single subject at a time. Papers are first read by different ones on the different phases of a subject, and then a general debate occurs in which all who wish can take part after the invited disputants have had their say.

The East St. Louis Medical Society is about to raise a fund for the use of members who have damage-suits to defend. Charges of malpractice are becoming so common that they have adopted this co-operative plan of defense as better than having every man defend himself. Most of the suits are said to come from charity patients. The society proposes to employ an attorney permanently for such work.

The Montreal *Herald* is fighting the decision of the College of Physicians and Surgeons of the College of Quebec in not letting its members act as salaried officers of fraternal organizations. It thinks that the college in adopting such a resolution has exceeded its powers, and is acting in opposition to public interest. The editor thinks that if doctors can accept small salaries from hospitals they should be permitted to do the same by these organizations.

The *American Medical Journal* of St. Louis, Mo., says: "There were 200 inmates of the Cook County Hospital in Chicago that were discharged from that institution in a day. It was determined that these were only there feasting from the county funds. They had been in perfect health for a long time. Twenty of this number had been admitted in 1890, and fifty were admitted in 1893. Some of them had money or rich relatives, and one of the number had been an inmate for six years, and owns a block of buildings.

The Utah State Medical Society at its late meeting in Salt Lake City discussed the wisdom of letting the outside world know of the climatic advantages of their State, because of its tendency to cause consumptives to emigrate there. Reference was made to the large number of such cases now found in Denver and Colorado Springs because these places had been advertised as particularly favorable for them. They thought it would endanger the health of the other residents to do anything that would invite consumptives there.

An interesting case is on trial at Columbus, O., that seeks to determine whether a medical law is constitutional that forbids medical men of one State from entering and practicing in another State. The Constitution of the United States says: "The citizens of each State shall be entitled to all privileges and immunities of citizens in the several States." It is contended that the Ohio law makes residence and not merit a qualification for the practice of medicine. The representatives of the State hold that inasmuch as outsiders can by obedience to the law gain the right to practice there, the law is quite constitutional.

The St. Louis *Republic* of October 10th contains a report of a law-suit between Dr. Paul Paquin and a former partner of his, in which the doctor is accused of unprofessional conduct and of producing a useless serum for the pretended cure of consumptives. The process of manufacture is given, and the utter lack of ordinary care to avoid danger in its manufacture is commented upon. A fac-simile of a letter of the doctor's is given in which he advises this former partner to give out guardedly to the daily papers certain matter which he sent to him so as to advertise their serum to the public. He says: "We must be exceedingly cautious how we handle the doctors."

France seems now to be a good place to get shaved. The law compels barbers to sterilize their razors in boiling water every time they use them. Combs, brushes, and other things used must be made of metal and kept in a stove at the boiling-point of water or in a receptacle with a solution of formaldehyd and salt. Before use they must be dipped into boiling water. No puffs are allowed. All powder must be applied with a blower. Every time barbers are about to dress a man's hair they must go and freshly and thoroughly wash their hands. Damp sand must be sprinkled on the floor, and this must be carefully swept up every day and burnt. The hairdressers do not like these orders.

The Mississippi Valley Medical Association held its twenty-third annual meeting at Louisville, Ky., on October 5th to 8th. It is reported as being one of the largest gatherings it has ever had. One of the chief attractions of the occasion was the reading of a paper by Dr. John B. Shoemaker, of Philadelphia, on "The Progress and Problems of Medicine." It dealt with all the recent steps taken by progressive medicine from serumtherapy to Roentgen rays. Cancer he pronounced the most difficult problem in medicine, and declared that so far only the knife, caustic, and electricity had proven of any advantage in fighting its ravages. The new president of the association is Dr. John Young Brown, Jr., of St. Louis, and the next meeting-place is to be Nashville.

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EDITORIAL

A WORD WITH OUR READERS

THE aim of the AMERICAN MEDICO-SURGICAL BULLETIN, as at present conducted, has been to give its readers an annual volume that would faithfully reflect the history and growth of medical science for a year. Its material is selected and arranged in a manner that will adapt it for permanent preservation, so that in years to come each issue will be of increasing value as a work of reference. No text-book will ever be able to take its place. When a new remedy or new operation is first reported every particular is sure to be given. When these are embodied in text-books many of the particulars are omitted on the assumption that the reader is already familiar with them or because of lack of space to give them. A reference to the back volume of the BULLETIN will show the historical development of our knowledge of the subject, the earliest objections raised and the answers to them. If our readers ever wish to write up any subject of a medical character for the county, State or American Medical Association in years to come, no library that can be consulted will be as likely to contain the information sought as will the BULLETIN. If they want to make an original investigation in any department of medicine the files of the BULLETIN will show them what others have done before them and tell them what progress has been made in that direction. When perplexed by the developments of some new and remarkable case, and not knowing what it is or what line of treatment to pursue, a completed file of the BULLETIN will be pretty certain to show that others before them had similar cases, and it will tell how they were treated and with what success. Every new volume of the BULLETIN gives additional value to those on hand by making the record more and more complete. When anxious to discuss intelligently any topic under debate at the medical society the back volumes of the BULLETIN will always be the best of reference libraries. Every abstract in the various departments represents a long article trimmed of non-essential preliminary remarks, redundant expressions, repetitions, personal references, and general froth. The source from which each came is given with such accuracy that the original can be consulted if the reader desires to do so for verification of the carefulness of the abstractor and faithfulness of the contents of the abstract. Each number of the BULLETIN contains more matter than could, before condensation, be crowded into a large octavo. The original articles abstracted in the twenty-four numbers of the year would make, if brought together, a larger work than the average encyclopedia. But this does not begin to represent the vast amount of useless or redundant medical literature that our staff has to read and reject in order to get the best. Our exchange-list and the list of journals for which we subscribe embrace one hundred and eighty-nine American and one hundred and ninety-three foreign. These are regularly divided and distributed among the twenty-one medical men at present composing our staff. They select the wheat from the chaff, and enable us to lay before our readers every fortnight the best that the world contains. Our news-items are all selected and abstracted from the public press, and therefore represent another mass of literature of a different class that comes to our aid. Except the matter that appears in the department of "Among the Editors" and the "Selected Papers," every item contained in the BULLETIN is the original composition of our staff. A very large part of every number is translated by the various members of the staff from French, German, Spanish, Austrian, Danish, Italian, Russian, Swiss, Belgian, and other sources. Our journals from India, Australia, Canada, and Great Britain are of course in English. It can be seen from this that the members of our staff are workers and not, as are the nominal staffs of some medical journals, mere ornamental figureheads. Let our readers weigh these facts in their minds and consider the tremendous amount of labor which this represents and which they are saved. Is it any wonder that the AMERICAN MEDICO-SURGICAL BULLETIN is at present the most frequently quoted medical journal in the United States? To own a ten years' file of the BULLETIN is to be in possession of more valuable medical information, that is at once available and useful, than to own a five-hundred dollar library of the choicest medical works. Merely to read it through and then throw it aside is in no sense to put it to its proper use. It is not designed as a momentary amusement for the busy doctor. Its stories, like those of an encyclopedia, are too concentrated to amuse. To appreciate fully the real value of our journal the reader must save every number, properly arrange them for handy consultation, and use them as he would an encyclopedia. Even our news-items will be found to be of such a character that most of them can in future be used by anyone who wishes to study up the history of the development of medical legislation, medical sanitation, and medical sociology. There is no other medical journal in the world that so completely seeks to cover these features or that could be used in future for so many useful purposes. Only in one respect have we found the BULLETIN lacking completeness to fulfill every function here outlined. Up to the present we have had no department for abstracts of interesting general addresses and attractive papers on medico-legal and medico-political subjects, etc. To cover these fields fully in future we have in this number begun a department of "Current Topics," where such miscellaneous themes will receive due attention. As our journal now stands it is by all odds the lowest in price and at the same time the most complete of its kind in the world. To bring it within the reach of every progressive medical man in the country the price was put at the unprecedentedly low figure of one dollar per year. At this rate those who purchase many medical journals can add the BULLETIN to their list for its value as a future work of reference, while young medical men and medical students beginning their career and unable to supply themselves with a library and several costly medical journals, can here have all the advantages of both for a trifling outlay. It would be a financial loss to the publishers of this journal to supply it at this rate but for the large number of doctors that are induced to become permanent subscribers. The increase of our subscription-list increases our advertising patronage and enables us to get better rates from advertisers. In spite of the fact that the BULLETIN is giving far more, in fact enormously more, for a dollar than any other medical journal in the world, it is paying full regular rates to its large staff of abstractors for everything that appears in its columns, while there are several costly medical journals that pay nothing for the matter that fills their pages. There are many monthly medical journals at a dollar a year, but there is only one semi-monthly at that extremely low figure, and, strange though it may seem, our dollar journal has probably the largest paid staff of any medical journal in America. The aim of the publishers is to make the BULLETIN occupy the same place in medical literature that the *Youth's Companion* does in popular literature. They seek to get a subscription-list of unrivalled size, and that too without interfering with the growth of other medical journals, all of whom we wish the best of success. The price is such that no doctor can miss the amount, and it need not in any way hinder his taking one or several others. The contents are such that no doctor should be without it, even though he does not have time to glance at the pages of any journal when first received. The value of the BULLETIN to him is for all future years, and besides is cumulative. On this account every present subscriber who wishes to do a favor to his friends in the profession should call their attention to our work and its advantages. Ask them to compare it with any or all other journals of the same scope, both as regards price and contents. We are sure of the verdict in any such trial. We do not ask for such a comparison for the purpose of drawing away subscribers from other medical journals, but to convince them that we are giving unusually large value for the money asked. So small is our price that most of them can well afford to continue taking the others and have ours also.

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EXPERT TESTIMONY

A RECENT murder trial, in which a husband is suspected of having killed his wife and dissolved her body in a vat containing caustic potash, has once more raised the vexed question of the value of expert testimony and how to reform its present abuses. For some weeks the medical press has been debating this subject, and at the recent meetings of the New York Medical Association and the Medical Association of Central New York, it was the topic that stirred up the greatest general interest. We note with considerable misgivings a tendency among medical men, lawyers, judges, and editors of the lay press, to ask for the abolition of the present method of taking expert testimony from men employed as experts by either plaintiffs or defendants. The cry now is for an expert or commission of experts engaged and paid by the county or State. Unfortunately the evils of the present system are so apparent that no one can deny or excuse them. This is why the clamor is raised for a change. We fear, however, that there is great danger of our "jumping out of the frying-pan into the fire" if any plan of reform yet proposed is adopted. Too much care cannot be taken in this matter if the interests of justice are to be properly conserved. It will be much better for us to bear with present evils, bad though they are, rather than to incur others that may be very much worse. No one can foresee the whole of the results that are likely to occur from any given proposed change, and if we can see some highly probable dangers it is but fair to infer that they are only a fraction of the total that is almost certain to crop out upon actual trial. It is almost the universal rule for plausible sociological theories to abort, and abort badly when brought to actual test. The principal reason for this is the tendency most men have to base such theories upon the assumption that they will have to deal with ideally perfect men and women. Seldom do they reason on the far more probable assumption that the directing and controlling force will be the meanest men and women of the classes under consideration. In sociology as well as in physics the strain that the mass can endure is not that of the strongest part, but that of the weakest. To judge correctly on the probabilities of what will occur when a given law or social scheme is to be tried the only way to approximate the truth is to reason on the supposition that the weakest moral traits will lead. If the proposed scheme has a weak spot anywhere it is quite sure to fail at that spot.

The most plausible scheme yet put forward for the reformation of the taking of expert testimony calls for a commission of experts appointed by the court, paid by the county and not allowed to accept fees from either of the contestants in the case. None of the advocates of this plan has told us how the court is going to find out who are the best experts to choose. If the matter was narrowed down to the limits of ordinary medical cases it would be hard enough for a judge to decide as to who is the best authority in his jurisdiction. If he happened to be a believer in homeopathy he would naturally conclude that he should only have homeopaths. If his leaning was toward osteopathy he would be pretty certain to give the osteopaths the preference. If on the other hand he had no choice in pathies, and was content to select regulars, how would he know whom to choose from among all his medical acquaintances? Can a judge be depended upon to tell who is the best medical authority in his county? Might we not as well ask him to go into a drug-store and select the drugs he shall use for himself when sick? When we remember that the principle involved in this controversy covers every form of expert, and therefore every part of human erudition, it becomes apparent that the just execution of the function that would be placed upon our judges would necessitate their being omniscient. Since none of them approaches this standard, and since if they did they would not need the assistance of experts, it is quite clear that they must look to those around them for advice before they would dare to make a choice. Who is there around a court, and who among the judge's acquaintances that would be capable of giving him advice regarding the best authorities on surgery, gynecology, ophthalmology, dermatology, chemistry in its multitude of branches, physics in its, and other sciences in theirs? What a lovely field for bribery would here be created! How easy to discover the judge's friends and get their good will. On medical affairs he would be apt to consult his family doctor and such other doctors as he happened to be on speaking terms with. How easy to discover these, and for a consideration or on the score of friendship get them to recommend paid experts? The poor man and the honest man under such a regulation would not stand any chance of getting justice. Our courts would become a perfect paradise for the venal rich. However honest and upright the judge might be, he would certainly be circumvented. Indeed, the more honest as a judge he happened to be, the more would justice be likely to miscarry in his court.

Would experts selected by the court be likely to do their best in any case to which they might be called? Are human beings likely to do their best when not stimulated by opposition or prompted by direct self-interest? If all the decisions are not subject to challenge they are not going to make the effort necessary to study properly the whole of any subject placed before them. Indeed, if they were quite willing to do so they actually could not from lack of the suggestiveness that comes by opposition. When a man's conclusions and supposed facts are challenged step by step as he produces them he is at his best mentally. The spur of the opposition brings out all there is in him. A commission of experts lacking all such stimulation would soon degenerate into a group of dogmatists incapable of serious, earnest, scientific thought. The best men in any particular department of science would not care to act in such a body. Not being permitted to fix their own fees for services, only inferior talent would be obtainable, except in such cases as interested parties might succeed in bribing the judge's friends to persuade him to select a man of their choice.

After all, what is a commission of experts but a protest against our present jury system? They come in to supplement work that the jury is supposed to be capable of doing and should do. Unlike the ordinary jury, they are supposed to be able to settle points of justice not from the data given them by the parties concerned, but from their own stock of knowledge bearing on the dispute. It is not even likely that they would have the advantages of a fairly complete library bearing on the subject to enable them to supplement their stock of knowledge by that of others. In nine cases out of ten there would be likely to arise some point that none of them would be in possession of the latest discoveries upon. The superstition that an expert should know all about a subject in which he is called upon to act, is not wholly confined to the minds of the ignorant and vulgar. Every mind, however great, has its shallows, and they are apt to crop out at any unsuspected point to the astonishment of those who vainly believed that such a mind was limitless in its expanse in that particular direction. Here, as everywhere else, the Scriptural injunction not to put our trust in man is well worth remembering. As soon as we make jurors of experts and stop their acting as witnesses, so soon do we demolish the jury system and take the first step back to star-chamber methods, unless we place them directly in the jury-box and get rid of the figureheads that they are supposed to supplement. No hybrid device will ever save us from the evils now upon us. Let the experts be impanelled as jurors and let them listen to the testimony of the paid experts of both plaintiff and defendant, and then we can expect some approach to justice in difficult, scientific cases.

More facts will be unearthed bearing upon the case than possibly could, or would, by any commission that we could ever select. These experts frequently give weeks of study to the subject before the trial, and even though their study be one-sided, it is corrected by that from the other side. Unfortunately, however, there is seldom either a judge or jury capable of sifting such evidence and getting the unbiased truth from it. To offset this ignorance, the attempt is being made to get a decisive verdict from the experts. This is a superstition. The world never can get such a commission. A body of men claiming such power would, in the very nature of things, be a fraud. Truth is relative and not absolute, and at best we can usually only approximate it even in its relativity. The approximation can only be reached after an exhaustive study such as no commission ever would give.

AMONG THE EDITORS

THE MOSQUITO AS AN ETIOLOGIST

All joking aside, the question whether a mosquito can carry contagion, is an important one; grave enough to have attracted the attention of serious investigation. The latest testimony seems to be against tne insect. It is given by Ross in the *Indian Medical Record*, May 1 and 15, 1897. A mosquito-bite, like any other wound, may be the starting-point of infection; and the object of Ross' investigation was not to establish this fact, but to learn by experiment whether or not malaria may be transmitted by means of mosquitoes.

It is conceivable that this transmission might be brought about in a variety of ways: by the ingestion of water in which they have laid their eggs, or which contain their *débris;* or by the inhalation of dust from the dried pools in which they have lived, or by their bite, or by the feces, which the insect leaves upon the skin, getting into the mouth from fingers which have scratched the irritated surfaces.

In the series of experiments conducted by Ross, no results followed the bites of insects previously fed upon malarial subjects, although in one instance no less than thirty-six insects were turned loose upon one man whose history showed him to be likely to contract malaria on slight exposure. The mosquitoes were kept for various lengths of time before they were used, in order to give the malarial parasites time to reach the proper stage of development. It is possible that the species of mosquitoes employed were not the varieties which are capable of carrying malaria, as the species of this insect are many, and it is at least supposable that only one of them, or a limited number of them afford suitable conditions for the growth of the parasite.

The experiments with water in which mosquitoes had lived, and which contained their *débris,* including the spores of the gregarian (pseudonavicellæ or psorosperms), were more successful. In three out of twenty-two experiments, the ingestion of such water was followed by a distinct though slight attack of malarial fever, while in two other instances, there was a slight reaction which may or may not have been malarial in its nature. Leaving these indefinite cases out of consideration altogether, there still remain three positive results in twenty-two cases, and Ross estimates that although the natives in his district are subject to frequently recurring attacks of malarial fever, a liberal average would allow every native one attack each year, and that gives one case in every seventeen subjects in a period of three weeks' duration. It may be urged that these cases are so few that they may still have been a coincidence; but this is an interesting line of experimentation, and the result is sufficiently striking to warrant further investigation.—*Medical News.*

DO DOCTORS CURE DISEASE?

The public is suffering to an extent of which they have little comprehension, in consequence not only of their own misapprehension but that of physicians themselves, respecting the functions of the medical man. That it is not the physician's duty to cure disease is evidenced by many facts. Not a few diseases are incurable, being either fatal or self-limited in their nature. No intelligent physician professes to be able to *cure* measles, smallpox, diphtheria, whooping-cough, typhoid fever, or any other disease of a similar character. Under favorable conditions, however, the patient recovers from all of these maladies—not, however, by the cure of the disease, but by its disappearance after having run its allotted course.

To make the meaning clearer, one or two illustrations may be offered: Morphia will cure pain, but it does not remove the cause of the pain. It cures the difficulty, but not the patient. An anesthetic will cure the pain caused by the amputation of a leg, so that the operation may be painless; but the patient is not cured—at least not by the anesthetic.

The public should be educated up to the idea that disease is not altogether an evil; that it is simply a manifestation of morbid conditions present; and that if these are removed at all, it must be, as a rule, by the efforts of nature, through the natural forces of the body—the *vis medicatrix naturae.* To check these efforts without removing the cause of the difficulty is to interfere with the natural process, and to make the patient worse rather than better. Physicians should continually instruct their patients that nature is the great physician, and that if they are cured at all, it must be by the recuperative powers of their own bodies, the duty of the physician being simply to aid nature in accomplishing this, and not to thwart or embarrass her efforts to restore the sick man to health.—*Modern Medicine.*

PASSENGER SHIPS SHOULD HAVE PHYSICIANS

The transatlantic steamers all have a doctor as one of their officers. This is not only because they wish to advertise this additional safeguard toward the comfort and safety of their passengers, but because European countries will not allow them to carry human freight unless they carry medical aid. Competition, in their case, might even be a sufficient factor, but as this incentive is usually lacking as far as our coast ocean transportation is concerned, Congress should be appealed to in proper season in order that it may pass a law covering the case.

All sea-going vessels whose voyages ordinarily last, say, two days or more, and who regularly carry passengers, should be compelled to have a physician on board during such trips. Many of our coastwise ships are out as long as those going across the Atlantic, and carry a large number of precious human lives. Why should all the latter be exposed to attacks of illness and to injuries from accident, without the possibility of proper attention for days? During heavy weather it is so easy for people to receive bruises or cuts, and even a fracture, at the time of a sudden lunge. Again, an improperly cooked dish or some poisoned canned stuff could so readily prostrate a number of persons with choleraic symptoms!

It will scarcely be claimed that doctors are scarce. We venture to prophesy that a sufficient number of skilled men could be secured in short order at reasonable salaries. Then why delay? The ship companies would not be much out of pocket—a slight increase in passenger rates would cover the difference; the overcrowded profession would be benefited by having these outlets offered; the passenger, especially, would profit by having his mind more at ease and his physical discomforts attended to. *Let us have a law.—New Orleans Med. and Surg. Journal.*

WHOM TO MARRY

In this utilitarian age there is developing a class of social reformists, so they might be dubbed, who are undertaking to start a movement for the reform of our present marriage customs in so far as the selection of man's life-partner is concerned. Their disciples claim that it is man's duty to nature to endeavor to physically improve the human race by carefully selecting healthy mates and breeding mankind with the same care as is fostered upon horses and other fine stock. How utopian is this scheme! Because away back in the strain of the family of the woman of one's choice is found a taint of consumpton, are we therefore to bridle our affections and lavish them where there is no response? Why should the fact that some young girl's brother perhaps is tainted with an incurable affliction—epilepsy for instance—debar her forever from the boon of matrimonial happiness? Have we not seen numerous instances where a weak, delicate girl has, after a few months of married life, blossomed out into a strong, healthy woman? Who is more fitted to nourish back to healthy womanhood the declining girl, than the hale, self-reliant husband? Are not the weak and unfortunate entitled to a like share of consideration with the strong? Is the weaker woman to be denied God's supremest gift—the gratification of love—in order to permit her stronger sisters to perpetuate a more physically perfect race? These social reformists claim that the civilized race is deteriorating physically and mentally on account of indiscriminate intermarriage. Of this we vigorously deny proof, for indeed we do not believe that any evidence whatever to that effect can be adduced, but per contra, statistics show the longevity of the human race is gradually being lengthened, and that mental as well as physical culture is evidencing marked strides of development.

Now in answer to the question of whom to marry, we can only say that so long as the instincts of love and natural affinity predominate in man and woman, no legislation, no doctrine of social improvement, will influence men in one iota in the selection of their wives.—*Memphis Med. Monthly.*

MONEY THE CHARIOT OF DISEASE

Watch a twenty-five-cent piece for four days. Wednesday it is taken from the bank bright and clean, and carried for a few hours in a satin-lined, perfumed alligator-purse. It pays a cab-fare and goes into a dirty old pocket with questionable associates. It buys a plug of tobacco, goes into a till, but in less than an hour it is given out in change to an old consumptive, who ties it up in the corner of a handkerchief that is completely loaded with tuberculosis germs, where it remains over night. Thursday morning it is given to the servant girl to buy milk. She holds it between her lips while she ties her shawl over her head, rushes out to the milk-wagon and passes it on to the dairyman, who for convenience holds it in his mouth while he gets out his purse to find the required change. An hour later it is passed in change and goes into a house where there is diphtheria, scarlatina, or typhoid fever. Here it remains over night, and is used for a tooth-cutter by a feverish child. Friday morning it is spent for bread. At noon it is given to a business man on his way home to lunch; on his arrival he finds his little boy wants a quarter to go to the circus. Papa takes out his purse, gets out the quarter, puts it in his mouth while he puts his pocket-book away, and gives Willie the money. Mamma takes the quarter, and holds it between her lips while she adjusts the little urchin's cravat, places the money in his hand, cautions him not to lose it, kisses him good-by, and he is gone with a bound. The first occasion he has to use his hands he will put the quarter in his mouth. It is spent at the circus; it stays in a bawdy-house over night; passes through hands and is held between lips that are reeking with the most deadly virus of the most loathsome disease. Saturday morning it finds its way from a saloon to a bank. At three o'clock Saturday afternoon the banker's daughter may be seen with that same polluted, virus-loaded quarter between her fair lips, waiting to buy a ticket for the matinee.—*Good Health.*

THE ANESTHETIZER

The ideal anesthetic is not yet found; safety and efficiency are not yet combined in any agent at our hand; but the dangers attending the use of chloroform or ether are now so well understood that where accidents do occur during their administration, they are more likely to be due to inadequate preparation and examination of the patient, or to faulty technique in administration than to the anesthetic. Then, quite as important as the ether, is the etherizer; and more culpable than ignorant is the operator who intrusts the life of his patient to an anesthetizer who is ignorant or careless.

Too often the position is one indicating inferiority. In private practice it is relegated to a secondary place in the eyes, not only of the family, but sometimes of the surgeon and his more active assistants; too often the service goes unpaid, the mere fact of the honor of assistance being considered equivalent to a deserved fee.

This should not be. The position is one with peculiar responsibilities; upon the correct and careful administration of the anesthetic depends the success of the operator, upon his skill the life of the patient, and more than any other assistant the anesthetizer should be recognized as important and his services valued accordingly.

There is a wide field of usefulness for the man who, by special study, close observation and extended experience, shall fit himself to administer an anesthetic with the greatest safety to the patient and the utmost confidence of the operator.—*Atlantic Medical Weekly.*

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Eurethro, an extract obtained from the spleen, is a new remedy for anemia and chlorosis.

CURRENT TOPICS

THE ABUSE OF MEDICAL CHARITY

Dr. Frederick Holme Wiggin, in *Med. News*, October 23, 1897, has an article with the above title. He says, in part, that it was recently stated in a leading medical journal that a person asserting that one-third or one-half of the inhabitants of this city are paupers would be deemed a person of unsound mind; yet it has been said by Dr. Stephen Smith, in a report to the State Board of Charity, that during 1895, 837,971 persons applied for, and received free medical treatment at 105 dispensaries in this city, and that during the same period 1,418,847 free visits were made to these dispensaries; also, that during the same year 78,000 persons received free medical and surgical treatment, including free board, lodging, nursing, drugs, surgical dressings and appliances, making a grand total of 915,971 persons who claimed during one year to be unable to take care of themselves.

Surely these figures are alarming, if correct, and from the well-known reputation of their compiler for care and accuracy, there is no reason to question them. If we consider the amount of money expended in this city during one year for charitable purposes, it seems certain that something is wrong; either a larger number of people are unable to help themselves than should be the case, or the public and private money contributed for this purpose is sadly wasted.

Then follow a number of quotations from Drs. Gray, Huber, and Shrady.

The following personally observed abuses of medical charity are stated: While attending at dispensary he was called to see a baby; on arriving at the address given he found evidences of prosperity rather than adversity. On questioning the mother he was assured that her husband had plenty of work and good pay, and the reason she had sent for a dispensary doctor was because every other inmate of the house had a physician for nothing whenever they cared for one, and she thought there was no reason why she should send for a pay doctor.

More recently a man came to his notice who lives in one of the largest and finest apartment-houses on the west side of the city not far from Central Park, and who pays several thousand dollars a year rent. Requiring some special advice, instead of going to the office of the specialist he wished to consult, he went to his clinic at the "diamond dispensary" saying that he could not afford to pay a fee to the doctor as his expenses were too heavy.

A number of similar cases is related; the doctor sums up as follows:

First. That medical charity, as at present administered, is an unqualified evil, and is seriously menacing our existing social conditions.

Second. That the application for free treatment of those able to pay the physician a moderate fee for his services robs the poor.

Third. That all medical charitable institutions should be under the direction and control of State and local boards of charities, who could have the power to enforce their rules.

Fourth. That all applicants for medical charity should be investigated by local charity boards, and the unworthy excluded.

Fifth. That no medical charity should be allowed to charge nominal sums for medical or surgical services or appliances.

Sixth. That all physicians connected with charitable institutions should be paid for the service which they render.

Seventh. That it should be made a misdemeanor, punishable by fine, for any person to receive free medical treatment by reason of false representations as to financial condition.

Eighth. That the financiering of many medical charitable institutions involves, as at present conducted, a breach of trust.

Ninth. That no State or city aid should be granted to private medical charities.

S.

THE CAUSES OF A DECLINE IN THE AVERAGE INCOME OF GENERAL PRACTITIONERS OF MEDICINE

In an address by Dr. Charles Phelps, delivered at the fourteenth annual meeting of the New York State Medical Association, he said in part:

The attention of the medical profession of late has been somewhat anxiously directed toward a conceded lessening of its pecuniary returns. There seems sufficient reason for believing that the average income of medical men has been seriously diminished. It is true that at the present time a certain number of specialists, surgeons, and consulting physicians in large cities receive even an extravagant compensation, but a majority of the members of the profession who compose the rank and file, the family physicians and general practitioners has suffered a grievous pecuniary loss.

It is a mistake to suppose that the shrinkage in the revenue of the great body of physicians is solely attributable to an unwarranted increase in gratuitous aid to the sick, or to any other single agency. The causes of all notable changes in social conditions are complex.

The improved condition of the public health is largely responsible for the lessening of the physician's income.

Another reason for the leanness of the doctor's exchequer during the past year or two may be found in the general business depression, and in the resulting attenuation of the incomes of all sorts and conditions of men. This has necessitated the exercise of economy at the extremes of society, and, in fact, in every station of life.

The growing habit among physicians of directing the use of various tablets, triturates, and ready-made medical combinations in place of complicated prescriptions to meet the therapeutic indications has much favored the tendency toward direct traffic between patient and apothecary. If the patient is of that class whose income affords no margin for luxuries, and scarcely any for extraordinary expenses, he waits in the face of impending illness so long as he may, and when compelled to seek relief turns to charity.

The want of proper adjustment of medical fees to the circumstances of the patient has undoubtedly inured to pecuniary disadvantage of the physician. The cost of medical service to people of affluence is not usually excessive, but to those depending upon a small annual stipend, and to those who, poorer still, are yet desirous of private medical attendance, it is, though perhaps not beyond the desert of the medical professional man, at least often disproportionate to the ability of the patient to pay. Many are driven against inclination to charity.

The fact that funds designed by both public and private munificence for the relief of the sick poor have been diverted to the benefit of those who are beyond the necessity of charitable assistance, seems to be well established, and is generally believed by medical men to be largely responsible for a decrease in the business of the general practitioner. It is difficult to give this opinion statistical confirmation.

The most effective of the causes for the trouble are in part an outgrowth of the business methods which prevail at the present time and in part due to what may be termed the complicated mechanism now employed in the treatment of disease. The growth of specialism, the multiplication of sanatoria, and the disposition of patients suffering from acute illness of severity or from surgical disorders to enter public or private hospitals which have together made serious inroads upon general practice, have each this twofold origin.

It has been thought that the profession suffers from an over-congestion of its ranks, and this, with the undue extension of the work of medical charities, has been generally regarded as the essential, if not the complete, explanation of the present unsatisfactory pecuniary returns made to so many of its members. It is probably true that the number of medical men has increased out of proportion to the population. The medical profession has been made more attractive, its dignity has been greatly enhanced, its highest rewards have become as brilliant as those in any of the learned professions, and educated youth has naturally entered more freely upon its study.

The doctor ends his address as follows:

Changes in social conditions are always insidious, usually unnoted until long after they are evident, and in time, often seemingly explosive.

In view of all these causes of decline it may be said that the only wonder is that the general practitioner has any practice left at all; but the world is large though the doctors be many, sickness and death are the heritage of all mankind, and, as a matter of fact, we have not yet found our occupation gone.

The natural and fitting termination of a discussion which involves the etiology of grievances is in the indication of means for their removal; but it is easier to observe phenomena, to speculate upon the origin, and to moralize than to suggest a remedy—as we too often find in the study of our cases. The improvement in the health of the community is likely to be progressive. The general commercial depression and the consequent contraction of incomes which have led to an economy in medical attendance of people of moderate means, and even of moderate wealth, and have driven the poor to hospitals and dispensaries, are, of course, beyond our influence and control.

The injury which has been done to private physicians by the unwarranted methods of pseudo-medical charity is unquestionably capable of whatever relief the law can afford, although remedial legislation can never entirely obviate existing causes of complaint, except by a censorship so severe and a surveillance so complete as to be alike distasteful and foreign to the characters of members of an honorable profession. If the managers of hospitals, dispensaries and college clinics remain regardless of their professional obligations to their fellows, and in their eager desire to purvey "material" for the instruction of students, or for their own exploitation, and welcome patients who, by reason of sufficient means, have no right to be accorded the privilege of the poor, no process of law can wholly restrain them. There are moral delinquencies, as there are crimes, for which no legal punishment is provided.

The undue or inconvenient increase in the number of practitioners of medicine, whether or not it is to be deemed an evil, is no more to be controlled than the growing disposition of people of moderate means to seek unnecessary medical advice. The profession cannot be surrounded by a Chinese wall, and if we are jostled or too much crowded we must endure with the best grace we may.

Competition grows more intense, whether the urgent cause may be the diminished work to be done, or the greater number who stand ready to do it; learning, sagacity, assiduity, and tact—every honorable means is essential to honorable success. Let us be desirous of none other—let us avoid questionable methods; and if our tools must be sharp, heaven grant that they may always be clean. S.

THE PREHENSILE POWER OF THE HANDS OF THE HUMAN INFANT

In a communication to the *Lancet* (Oct. 16, 1897), Walter Kidd contributes various interesting facts in connection with the above subject, of which the following is an extraction:

When the child is born one would expect nothing else than that the inherent power of grasp possessed by the hands, which is to be so conspicuously employed in later life in a purposive manner, should be disproportionately excited to reflex action by stimulation applied to the palm of the hand, and that the flexor muscles of the forearm and arm should react strongly to the influence of tension for the first time. At about the age of three weeks this disproportionate power of grasping begins to disappear and is gone, as such, in two or three months, when the novelty of reflex stimulation of the palm and flexor muscles has worn off. . . . But this remarkable power of the infant in the matter of prehension does not stand alone among the most powerful reflex actions which it is able to perform immediately it is born.

The post-natal cry of a baby in many cases is something startling for power and endurance. To take an extreme case, I remember one infant which, from the moment of its birth, for a solid three-quarters of an hour roared without five seconds' cessation. a feat which no strong man could perform.

This was an exceptional feat, but purely a reflex phenomenon like that of Dr. Louis Robinson's infant which supported itself for "two minutes thirty-five seconds"! In most cases the power and endurance of this cry, shown for the first few days in most vigorous infants when their skin is exposed to the air for washing, is very striking, even if it disappear earlier than the prehensile power of the hand. The power of sucking possessed within five minutes of birth by a strong child, and the cry for food which so soon shows itself loud and strong, are only two more among many reflex phenomena which rank in significance or insignificance beside the particular character before us. There is also a phenomenon which the foot of the human infant manifests corresponding to that noticed in the hand by Dr. Louis Robinson which one is surprised that he did not proceed to investigate. I have examined the prehensile power of the toes of many infants ranging from a few hours to a year in age, and find it singularly constant. It is excited by placing a small finger or similar body in contact with the flexor surfaces of the toes, which immediately close upon the finger in an attempt at prehension. This muscular act is kept proportionately as strong and as quickly evoked in a child of a year old, when it is passing from the purely reflex to the purposive phase of life, as in a new-born infant. In later life, in the case of savages and others intelligent enough not to cramp their feet by tight boots, about the corresponding degree of prehensile power of the toes can be exercised voluntarily. One would like to know whether or not Dr. Louis Robinson would look upon this reflex action of the infant's foot as supporting the "vestige" theory. Is this also the vestige of a prehensile power which man's simian ancestors exercised in the course of their arboreal life? If it be so it behaves in a very different manner from the analogous phenomenon in the hand whose course is so brilliant and brief. The hand of man and the ape are not so strikingly different in structure or function, but the differences between the foot of man and that of the ape are profound as to structure not less than function, and these were strongly brought out by Sir William Turner in his address on Antnropology at Montreal this year. Sir William Turner there points out that the prehension of the foot of the ape is more important than that of the hand, the pollex in apes being feebly developed. If man had any genetic connection with the ape surely the "vestige" of prehension of his foot ought to be a more marked character than the corresponding "vestige" pertaining to his hand. It is not so, for, as he points out, it is very feeble, it is persistent and varies little for a year or more, it corresponds closely to the degree of prehension which adults can exercise voluntarily, and it never is accompanied by an attempt on the part of the hallux at opposition, an act for which the anatomy of the foot in man is eminently unfitted. Moreover, the difference between the response to reflex stimulation of the muscles of the upper and lower extremities in an infant is very striking, and to a degree which bears out the suggestion as to previous use or non-use during fetal life which I have ventured to put forward. The slightest stimulation of the prehensile muscles of the hand and the flexor muscles of the arm and forearm, in attempted extension of the part, produces a prompt and strong resistance, as Dr. Lous Robinson has shown.

VALUE OF ATHLETIC EXERCISE AS A COUNTER-AGENT TO SEDENTARY PURSUITS

Sir Dyce Duckworth, M. D., in *Am. Jour. Med. Sci.*, No. 306, has an article with this title. The contrast between the sequelæ of no exercise and the unfettered and unlettered muscularity of the prize-fighter is shown in a few well-put words. The means is the desideratum, the combination of mental vigor and true English muscularity. The problem is how to secure this in town dwellers and rural life as well, for the combination is wanting in each to a degree. What fault is it that mentality and muscularity are not found to the extent expected in rural districts. The reason is in the lack of good food, well-cooked food, variety of food, and good homes and sufficient mental occupation. There is more spurring on of the country-bred youth to lead intense lives, to look toward the counting-house as the goal, rather than to seek in the cultivation of the soil and bringing it to a higher degree of excellence. The schoolmaster, the cheap newspaper, together with agricultural depression, are the primary instigators which have produced the exodus into towns. The question of politics is also a factor. This is not to be considered by the physician.

The devitalizing effects of town life are easily accounted for. They are found in the first hours of life. They are the tainted air, charged with impurities. devoid of essential qualities and not adapted to promote sound nutrition. It is deficient in oxygen and laden with the products of a concentrated population of men and animals. It is charged with gases of imperfect combustion from the vast consumption of fuel, of coal-gas, and is full of dust. There is lack of sunlight. A great difficulty is that citizens are unable to secure bodily exercise. The natural craving of persons for open-air exercise is limited to a greater or less extent in its gratification. Remedies are, however, growing in the greater number of athletic fields, in cycling. This is good. But as middle life approaches, with its increased responsibilities, men are apt to curtail that which is so needful. There should be more walking and less riding, in short, towns-people need all the outdoor exercise they can possibly get. Sedentary lives with plenty of brainwork are not inconsistent with a good appetite. But very often peevish tempers, irritable brains and unsatisfied minds are met, and in these the brain must be relieved by muscular energy.

In the use of athletics no heavy work or contests should be indulged in. All exercise should be regular and systematic. "Record-breaking" of various kinds may be undertaken—but not by the average man. There are those of special endowments, and such contests are for these, within limits.

Work and limiting the hours of work are much spoken of. Plenty of it and hard work even, does not kill or injure. It is the worry that kills. The outdoor laborer is rarely overworked. He has his leisure, his half-holidays, and his wages, which in the spending are more often than not spent in converting himself into a besotted beast. and on Sunday his time is spent in sleeping off his orgies. Athletic institutes with libraries, museums, reading-rooms, and social clubs, accomplish a great work among these men. S.

Singing in its Influence Upon Our Health

Dr. Barth writes (*Archiv. für Laryng und Rhin.*, VI, No. 1) that the value of singing as a physical exercise and its influence upon our health and general well-being are not to be underestimated. It causes a thorough ventilation of the lungs and of the blood, it improves the form of the thorax and gives more firmness and straightness to the spinal column. Through the diminished blood-pressure the work of the heart is made easier, metabolism is increased, and the movements of the diaphragm exert a kind of natural massage on the digestive organs. In anemia, in catarrh of the upper air-passages, in chronic diseases of the lung and heart, the author considers singing very beneficial. He also calls attention to the fact that it is an exercise which can be indulged in at any season of the year, requires no special appliances, and is ungrudgingly permitted to the female sex. [But while singing the latter should leave the corsets off, to derive real benefit.—Ed.] M.

SELECTED PAPER

ON THE PROGRESS AND RESULTS OF PATHOLOGICAL WORK*

By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S.,
Professor of Surgery, King's College, London, etc.

GENTLEMEN—On such an occasion as this one is naturally tempted to look back on the history of pathology during the past sixty years, but I hope that you will not expect me to follow the fashion in this respect. To trace the history of pathology during the last sixty years would be to follow the science practically from its commencement and to go back to a state of matters which it is almost impossible for us now to realize. Even going back to the time when I was first introduced to the study of pathology, some twenty-five years ago, the changes which have taken place are enormous. At that time the lectures on pathology consisted practically entirely of morbid anatomy; long descriptions, for the most part very accurate and not materially different at the present day, were given of the naked-eye appearances of the diseased parts, but as to how or why these changes were brought about, hardly any reference was made. Indeed, very little was known, and when an explanation was attempted it was generally of a mechanical or physical character. At the present time, while, of course, the changes which take place in disease must be known, the study of pathology is especially directed to the discovery of the mode in which these changes occur and the reasons why they appear. To-day it is the etiological side of pathology, so to speak, which occupies our attention, and deservedly so, for, so far as practical results in the treatment of disease are concerned, the knowledge of the changes produced is of comparatively minor importance as compared with that of the reason why they are set up and how they take place. The more accurately we can trace the etiological factors in disease and the subsequent course of events, the more likely we are to arrive at a rational method of treatment.

The most striking and important advance has been the growth of the great science of bacteriology, a science which has not only led to most important practical results, but has also thrown a flood of light on the processes which go on in the body as a whole, and has stimulated research in other directions not immediately associated with it. Twenty-five years ago bacteriology as a science was non-existent. So far as I remember bacteria were not even alluded to in our course in pathology, and it was only from Lord Lister that we heard the real facts so far as they were known, or gained any idea of the importance of their study; but even at that time, although his methods of treatment were already yielding brilliant results and saving many lives, and although he had deduced from clinical facts many points in the life-history of bacteria and their relations to the living body, which were only confirmed by experiments subsequently, still the number of actual proved facts was extremely few.

It is difficult for those who have only taken up the subject of bacteriology comparatively recently to realize the absolute blank which it presented even twenty years ago. When I became house-surgeon to Lord Lister in 1876, objections of all kinds were urged against the theory on which Listerism was based, some denying the existence of bacteria at all, others maintaining the theory of spontaneous generation; some asserting that organisms were always present in the healthy tissues, others denying that they had anything to do with disease, or that the success of the antiseptic principle depended in any way on the exclusion of the micro-organisms from wounds. Although at the present time such an investigation would be one of the simplest, yet when I came to carry it out I met with the greatest difficulties. Practically nothing of the kind had been done before, and all the means of investigation had to be devised. Methods of staining bacteria had not been introduced, we had no oil-immersion lenses, and I very soon found that by looking at discharges from wounds containing leucocytes, granular matter, and *débris* with dry- or water-immersion lenses, and without substage-condensers, no satisfactory result could be arrived at. Hence I came to the conclusion that attempts must be made to see whether organisms grow in suitable fluids inoculated from the discharges. Here again everything had to be devised. A suitable pabulum, methods of sterilization, of inoculation, and of incubation had to be worked out. A large amount of time was spent in getting over the preliminary difficulties, and after a satisfactory method had been found, much labor had to be devoted to preliminary questions, such as spontaneous generation, morphological characters of bacteria, their presence or absence in the living body, conditions of growth, and so on.

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* Presidential Address in Pathology delivered before the British Medical Association at Montreal, September 1, 1897.

A great advance which followed soon afterwards was the remarkable research by Lord Lister on the Bacterium lactis, in which he devised a method of separating bacteria by fractional cultivation, which resulted in the separation of the bacterium which causes lactic fermentation from other organisms. By this research, apart from the method, a great step was gained in the proof of the specificity of a particular bacterium both as regards morphological characters and chemical action.

Then came Koch's work on infective diseases of wounds, and the publication of his methods of staining and examining bacteria and of cultivating them on solid media, and this work is at the foundation of all modern bacteriological research. From this period the investigations have branched off in two directions. In the first place, almost all the infective diseases have been investigated for parasitic organisms. And, in the second place, researches have been carried on in the direction of tracing out the life-history and functional activity of bacteria, and of ascertaining what occurs in the body when organisms or their products are introduced.

From the latter point of view we come to another great landmark in the study of bacteriology, namely, Metchnikoff's work on phagocytosis, a theory which is not only very fascinating in itself, but which has proved a most suggestive working hypothesis, leading to many of the researches which have given bacteriology its present position. What a remarkable series of views have been opened up in this direction; questions of the relation of the cells of the body to the parasite, the differentiation of cells, alterations in serum, chemiotaxis, the development of the protective agencies and of antibacteric substances, antitoxins, immunity, and so forth. And yet we are clearly only on the threshold; the very simplicity of many of the explanations is, to my mind, sufficient to show that they are incomplete, for the workings of the living body are far too intricate to be summed up in a simple formula.

In spite, however, of all that has been done, many problems still remain unsolved. In the case of tuberculosis, why is it that in one part of the body we have a slowly growing lupous disease, and in another part, perhaps, of the same body, a rapidly developing tuberculosis? None of the explanations usually given, such as differences in the structure or resisting power of the tissues affected or of the individual differences in the virulence or activity of the organism, etc., seems to furnish sufficient explanation. And the same problem is apparently presented with regard to the bacilli of diphtheria, in that we may have in one case a true diphtheria, in another a membranous rhinitis, while in a third, although the bacilli are present in the throat, the individual may be apparently healthy.

Another very remarkable problem is presented by the results which follow free incisions into tuberculous tissue. An incision is made into the abdominal cavity, masses of tuberculous tissue and tubercle are found scattered over the peritoneum, nothing whatever is done, the wound is stitched up, and yet in many cases the patient, who up to that time has been going steadily down hill, begins to pick up, and the disease may come entirely to a standstill. This phenomenon is not limited to peritoneal tuberculosis. When I was a student the tuberculous nature of what are now recognized as tuberculous diseases of bones and joints was then only suspected, and was not generally accepted by the medical profession. At that time Lord Lister, under the impression that these diseases were of a simple inflammatory nature, and having observed the improvement which often followed free incisions into chronically inflamed tissues, began as an ordinary line of practice to make free incisions through the thickened synovial membrane of tuberculous joints with the view of relieving tension, which he looked on as the chief cause of the continuance of the trouble. Nothing else was done, the joint was not even washed out, nothing was taken away, and yet in a considerable number of cases so treated improvement began from the time that the incisions were made: the patients lost their pain, the wounds gradually healed up, and the disease subsided. Even in cases in which the results were not so satisfactory, it could, as a rule, be noted that, although the swelling continued in other parts of the joint, and although the disease began again after a few weeks as vigorously as before, yet for a time at least the thickening disappeared in the neighborhood of the scars, showing that there at any rate temporary benefit had occurred. What possible explanation can we give of such a result? The older surgeons used to speak of "setting up a healthy action in the part," and were quite satisfied with that statement. Such a view is too vague for us nowadays, but may there not be here a possible working hypothesis which if followed out might throw light on this matter? May not the occurrence of healing processes at one part influence in some way or other morbid processes in the vicinity?

Again, what is the meaning of a chronic abscess? How is it that the tubercle bacilli at one time produce a quantity of tuberculous tissue, at another a cheesy mass, and at another a chronic abscess? I do not for one moment accept the view that we have in the latter case to do with a mixed infection, and that the pvogenic organisms have died out before the abscess was opened.

In connection with the pyogenic organisms also we have many problems. How is it, for example, that after an abscess is opened antiseptically suppuration at once ceases? If instead of opening the abscess antiseptically a poultice be applied, suppuration goes on and may be very profuse. But if it be opened at a time when there is free fluctuation and when it is beginning to point, and if the necessary antiseptic precautions be taken and proper drainage be provided, no more pus forms, and yet when the abscess is opened it is found to contain living pyogenic organisms. We can easily understand that the subsidence of the fever and general disturbance is due to diminished absorption of toxic products. But why do not these living pyogenic organisms keep up the suppuration? and why is it that after two or three days one may fail to obtain any cultivations from the serum which escapes from the wound? If the inflamed part be opened up antiseptically, however, at an early period, just when pus is beginning to form, there is not always the same complete absence of suppuration, although it seldom goes on to any considerable extent.

Again, an operation-wound becomes septic, and one naturally opens it up freely and establishes drainage; but here suppuration does not cease at once in the same typical manner as in the case of an abscess which has existed for some days. The old surgeons used to speak of an abscess being "ripe," and they allowed it to remain unopened for some days till it was pointing. They found that if they opened a deep abscess early, suppuration went on and was apt to extend. No doubt a variety of causes led to this dictum: they did not provide proper drainage; they introduced other and more vigorous organisms at the time of operation and afterwards, etc.; but do not the facts seem to indicate that, as regards the cessation of suppuration, there is some ground for this idea of ripeness? It is possible that when the abscess has attained a considerable size and the tension of the pus in it is great the sudden release of the pent-up fluid may lead to such a pouring out of serum containing antitoxic substances as absolutely to destroy the organisms present, while, the case being treated antiseptically, no fresh organisms can come in to take their place. And yet I can hardly think that that is the whole explanation.

Although it is in the department of bacteriology that the most striking advance has been made, great progress has also gone on in pathology generally, in a considerable number of cases no doubt stimulated by the results of bacteriological research, and more especially by Metchnikoff's work. The subject of inflammation has had much attention paid to it as the result of these studies, although I cannot say that to my mind it has been made any clearer. The tendency now appears to be to regard inflammation as the natural effort at repair after injury. At one time this was the view held by surgeons, and the doctrine was that inflammation was essential to healing, and in the description of healing by first intention it was stated that a red blush occurred around the wound, not so severe, however, as where suppuration takes place, and that without this red blush the edges did not adhere. When antiseptic treatment was introduced it became evident that no inflammatory blush or other sign of inflammation was necessary for healing by first intention; in fact, it was found that wounds healed best when no visible sign of inflammation was present. I have, therefore, always taught that inflammation and healing are two different, and, indeed, to some extent, antagonistic processes, and that, although in every wound the tissues in resenting the injury show the early stage of inflammation, yet if no organisms be admitted the inflammatory phenomena soon pass off, and where there is destruction of tissue a second process, namely, that of repair, begins. As I have said in recent writings, the tendency appears to be to look on inflammation and healing as parts of the same process; but, in spite of the very able arguments adduced in favor of this view, I am still unconvinced. I still look on inflammation as the mechanism which gets rid of noxious agents or neutralizes their effects, and on the healing process as that which repairs defects, whether they are caused by injury and associated with inflammation or not. In fact inflammation must be followed by repair if recovery is to take place, but repair need not be preceded by inflammation. The difficulty arises from the close association of the two processes, both of which have to do with the growth of cells, and from the fact that repair follows as soon as the inflammation begins to subside. Hence under the microscope, except in cases of acute suppurative inflammation, one sees the two processes at work side by side, and it is not a matter of surprise that they should be confounded. As a matter of fact, the more the cellular processes are investigated the more it becomes evident that there is a marked differentiation of cells as regards function.

When Cohnheim first published his observations on the emigration of corpuscles, it was thought by many that the leucocyte was everything and did everything, but it was soon evident that other cells of different origin must be taken into consideration. When Metchnikoff's theory of phagocytosis first came out, some of those who adopted it assumed that all wandering cells were phagocytes; but here, again, further investigation has shown that cells differ greatly as regards their phagocytic action. I think that a great deal of the confusion of these processes arises from the fact that expressions involving a teleological argument are very common, more especially with regard to the protective arrangements of the body. On the idea of an acting intelligence on the part of the cells, the two processes would naturally go together; but, looked on as the simple effect of an injury, they should, I believe, be regarded as independent, and the less and the shorter the inflammation the better and quicker the healing process.

A very remarkable thing in connection with these advances, especially in experimental pathology, is the enormous direct practical benefit which has already resulted to the human race; and it is sufficient answer to the antivivisectionists who oppose the use of intelligence and observation and experiment, to point to the saving of human life and the relief of suffering which have taken place in the last few years. Since Pasteur's experiments on spontaneous generation were published, only thirty-six years have elapsed, and during that time remarkable results have been attained in treatment.

Scientific efforts to arrive at the truth as regards the workings of nature are necessarily slow, and must be carried on without any regard to possible ultimate practical results. When the earlier investigators studied the phenomena of electrical action, I doubt if it ever occurred to them that the result of their study would be of any practical value, certainly they could have had no idea of the revolution which the study of electricity would effect in the history of the world. When Pasteur resolved to test the theory of spontaneous generation, it did not seem likely to lead to any beneficial result; indeed, his friends tried to dissuade him from entering into what was apparently a useless investigation, and yet what numbers of human lives have been saved as the result of that work, and what incalculable benefit has accrued! It is greatly the fashion with the opponents of experimental research to demand a single instance in which an experiment has led to the discovery of a means of cure; but in no department of science has a single experiment of itself alone led to the practical result: the final observation which led to the practical result has been built up on numerous and laborious preliminary investigations and observations. And similarly, in regard to the cure or prevention of disease, the final trials on man have been led up to by numerous preceding observations and experiments. If these deluded people had their way, the result would be that experiments would be limited to man, and every one to whom a new idea occurred would apply it without any previous investigation; surely an appalling prospect, whether for physician or patient.

The practical results already obtained affect diagnosis, prophylaxis, and treatment. The diagnosis of many parasitic diseases has now been rendered certain and easy by searching for the casual organism, and I need only instance such diseases as diphtheria, tuberculosis, malaria, anthrax, gonorrhea, etc. And it is not only by the discovery of the parasite that diagnosis is assisted, but also by other effects of the organism, such as the sort of changes set up in the tissue, the reaction to products of the organism, for instance, tuberculin and mallein, etc.; and we shall hear a good deal about one of these diagnostic advances in the course of the meeting, namely, the action of the serum of typhoid patients on motile typhoid bacilli. If no other practical advance had resulted from bacteriological work, the possibility of establishing a definite diagnosis in obscure cases is surely a gain of the utmost importance, for it enables a rational prophylaxis and treatment to be instituted.

The greatest of all the advances, because so wide-reaching, has been in the prophylaxis of disease, especially in the prevention of septic disease after operations, as brought about by the discoveries of Lord Lister. By these discoveries the occurrence of sepsis in wounds made through unbroken skin is prevented, and the chances of general sepsis in septic wounds is much diminished, and numerous lives are saved, not only in this way, but also by the fact that the Listerian treatment permits the performance of many life-saving operations which could not otherwise be attempted. In other cases, also, prophylaxis is of great value, as in diphtheria, and in Pasteur's treatment of rabies, which may properly be grouped as a prophylactic rather than a curative treatment.

Lastly, I may refer to advances in the cure of disease. In the case of diphtheria there can be no question that the antitoxin is a most potent curative agent, and that, used in the early stages, it is almost certain to cut short the disease. As regards tetanus, the evidence in the case of animals is absolutely convincing, but in patients suffering from the disease the effect is not certain, probably because we have to do with an acute illness, which runs its course before the serum has had time to act. The same may also be the case with the antistreptococcic serum, although I have great doubts of its value as a curative agent. In other instances, such as plague and snakebite, we may apparently look forward to a cure; while researches are being carried on with regard to pneumonia which may lead to valuable results; nor must I forget to mention Pasteur's system of inoculating cattle against anthrax. What are we to say about the new tuberculin? We all know how careful an observer Koch is, and the fact that he looks on it as a valuable remedy is to my mind sufficient to make it necessary to give it a careful and hopeful trial. I must say that I have always been favorably inclined to the old tuberculin, and have regarded it in relation to phthisis like iodide of potassium in relation to syphilis, and, had I been a physician, I do not think I should have abandoned it in the hurried manner in which it was thrown aside.

But it is not only in the direction of bacteriology that advantage has resulted from pathological research. Look at the advances in treatment from the use of organic fluids. As the result of observations on man and researches on animals as to the effects of excision of the thyroid gland, attempts were made to transplant the healthy thyroid gland into animals and patients in whom it was absent, and following these attempts the use of the thyroid extract has ultimately come to be a recognized method of treatment. There is, perhaps, nothing more striking in medical treatment than the rapid and remarkable improvement in cases of myxedema from the use of thyroid extract.

I might enumerate many other instances of direct benefit from pathological research, such as the advances in the treatment of tuberculous diseases of bones and joints as the result of better knowledge of the nature and distribution of the disease, the treatment of appendicitis, and the investigations on peritonitis and diseases of the appendix, the more complete operations for cancer following fuller study of the mode of spread of the disease, and so on; but I have said enough to show the great importance and value of pathological research. Such results must encourage us to go on working with all our might and without ceasing, bearing in mind that many are suffering and dying every day who might be saved if only we had just a little more knowledge of the workings of the body and the processes of disease.

But while pathologists are thus working out problems which affect the general well-being of mankind, and the solution of which can be of no personal gain to themselves, is it too much to ask mankind to furnish the means for such research? The English are looked on as a thoroughly practical people, and yet it is a very remarkable thing that England is almost the only country which does not realize the importance of scientific research, and the result is that in England, with very few exceptions, men who might otherwise have thrown much light on these matters are compelled to turn their attention to practice in order to make a living. Unless work of this kind is done how can we hope to advance with any rapidity in the treatment and cure of disease? The surgeon or physician must wait till the information of which he is urgently in need has been acquired for him by the pathologist. Such apathy can surely only be the result of ignorance. A rich man affected with an obscure or incurable malady cannot understand how it is that he fails to obtain the definite opinion or the relief which he so earnestly desires and for which he is prepared to pay any price. Surely if he understood the meaning and importance of pathological research, and that the practicing physician can only apply and carry out what is taught by the pathologist, he would bestir himself to aid research in order to gather information which might be of much use to him and to others.

◆

Thymol in the Fever of Tuberculosis

According to the experience of Dr. E. de Renzi, of Naples (*La Sem. méd.*, XVII, p. 352), thymol is said to be the best remedy to employ in the fever of phthisis. Its antithermic effect is said to be sure and rapid, and the remedy is said to possess advantages over other substances used for similar purposes, such as quinine, antipyrin, acetanilid, and sodium salicylate, by exerting no depressing action, and instead of disturbing the digestive functions, manifestly improving them. He prescribed it in powder-form inclosed in cachets, each of which contained 0.25 gme. The commencing dose was four such wafers daily, and an increase of one per day was ordered until the fever was checked. A glass of water was also ordered to be swallowed after each cachet.

The remedy was remarkably well tolerated, even in enormous doses. The amount of the remedy usually required to check the fever varied between 6 and 7 gme.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Joseph P Winston M.D., George E. West. M D.,
W. J. Robinson, M.D., L Schöney, M.D.

A Case of Permanent Polypnea

Before the Medical Society of Kieff, Dr. Sklowsky read a communication on a very rare case of polypnea. The patient was a child, 3 years of age, with no hereditary taint, but bottle-fed and badly developed. When 18 months old it went through a very severe case of scarlet fever, and since then its respirations have been very rapid. The average number is 84 respirations per minute, going frequently as high as 118 per minute. Night and day the number of respirations is almost the same; the minimum that has ever been observed during sleep was 66 in a minute. The type of the respiration is chiefly abdominal. There is no dyspnea, and the child is not in any way affected by his polynea.

The heart, the lungs, and the kidneys are perfectly normal, as is the gastro-intestinal canal. Examinations of the blood revealed nothing abnormal. After reviewing the different possible hypotheses, the author says that he is inclined to look for the cause in a localized lesion in that region of the brain where there are situated the respiratory centers discoverd by Munk, Bechtereff, and others. The lesion was probably caused by the scarlet fever.

After a thorough bibliographic research the author was unable to find a single similar case, as the cases reported by Kordes, Bischoff, and Seelig-Müller were of a paroxysmal character, while in this case the polypnea lasted uninterruptedly for eighteen months. Chloral and the bromides had no effect whatsoever. M.

Cyclical Albuminuria

In the Russian *Archives of Pathology* (abstracted in *La Méd. mod.*, VIII, 62) Dr. Abelmann reports two typical cases of cyclical albuminuria, wherein he confirms the observations made by other authors and adduces some new facts.

The affection is met principally in children and adolescents, especially if they are anemic and are given to much intellectual work. It often follows the different infectious diseases. In the first patient it came on after an attack of typhoid fever and measles, in the second after the measles, complicated with pneumonia, the whooping-cough and scarlet fever. The patients complained of general weakness, headache, pain over the spinal column, somnolence, and of inability to concentrate their minds in their studies. Albumen was invariably found in the urine during the first half of the day, never in the evening or night-time. Muscular exercise does not increase the albuminuria, but intellectual work does. During the summer vacations the albumen disappeared for months at a time. Microscopical examinations were always negative. There were no cylinders, no epithelial cells, no blood-corpuscles. The author is inclined to regard cyclical albuminuria as a functional disease, though not denying the possibility of such albuminuria in genuine kidney-diseases. The etiology is obscure, but different theories have been suggested. The most important of those theories are: (1) A faulty renal innervation; (2) a functional disturbance of the liver; (3) a diminution of the blood-pressure in the Malpighian glomerules; and (4) a weakness of the vascular walls. The author is skeptical toward all of those theories, but offers none of his own. The prognosis is favorable, as almost all cases reported have terminated in complete recovery. As to treatment, the author is not in favor of rest in bed, nor of a milk diet.

Little school-work, fresh air, an easily digestible and richly albuminous diet, avoidance of excitement and moderate exercise will effect a cure. M.

Creosote in Chronic Constipation

It is reported by Dr. Vladimir de Holstein, of Paris (*La Sem. méd.*, XVII, p. 328), that he has used beech-wood creosote with marked success in chronic constipation, in cases where every other remedy, including abdominal massage and oily inunctions, had failed. The remedy was being used as a last resort with a view to its antiseptic action in the intestines, hoping thereby to prevent autoinfection, which it was concluded, was at the root of the difficulty, in the case of a young chlorotic girl afflicted with very obstinate constipation, and upon whom ferruginous and arsenical remedies had no effect. The surprise was therefore great to both patient and physician when, as a result of the creosote medication, normal daily stools were established, a fact which was later confirmed by observation in other cases of obstinate constipation. The best method of administering the creosote, it was found, was to give it with some diluent, such as milk, beer, wine, and water, or water alone. The most efficacious dose was found to be 7 to 9 drops, taken immediately after meals. When the dose was found to be insufficient it was increased. To accustom the patients to the burning sensation produced in the throat by swallowing the remedy, this was given in commencing doses 1 drop, which was increased by 1 drop daily, until the proper results were had. The medication must be continued for several months. and not only overcomes the chronic constipation, but re-establishes the appetite, improves the general condition, and clears the complexion. Under the influence of the creosote, the dejections become quotidian, soft, and abundant, but are unaccompanied by pains or any other symptom of intestinal irritation. The creosote does not act as a purgative, but only by neutralizing an intestinal toxin that, in chronic constipation, paralyzes the intestinal tract.

Ovariin as a Remedy

Rodon (*Orvosi hclilap*) reports three cases in which he has employed ovarian tablets. The first was that of a nullipara, 25 years old, who had been subjected to double ovariotomy six months before. There had been no menstruaation since, and for four months she had suffered with sleeplessness, loss of appetite, vomiting, severe headaches, and dizziness. She was directed to take two tablets on the first day, four on the second, and six daily thereafter. Improvement began on the second day, and in two weeks she was entirely cured. The second case was that of a nullipara, 47 years old, whose menopause had occurred two months before. She had nervous symptoms, the so-called molimina climacterica. Four tablets a day—she could not bear more—soon cured her. The third case was that of a virgin, 18 years old, who had suffered from epilepsy since her first menstruation and had been under treatment for years. Bromides and other drugs had proved utterly futile. She began with one tablet daily, and increased the number to ten. In the course of several months the attacks ceased. Discontinuance of the use of the drug was followed by fresh seizures, and its resumption caused their subsidence again.

Gastro-intestinal and Hepatic Relations of Gout

C. G. Stockton (*Virg. Med. Semi-Monthly*, July 9) states that although true podagra is uncommon in Americans, the condition described by Murchison as lithemia is commonly seen here. In the latter condition, one observes primary congestion of the liver, headache, lassitude, etc., but rarely evidences of deposits, arthritic or otherwise, and characteristic attacks of gout are absent. This leads to the question, Is lithemia gout? or is it the expression of a toxemia resulting from habitual disorder of the digestive organs, including the liver? From evidences accumulated by Garrod, Roberts, Luff, and others, that "uric acid is normally produced in the kidneys only, and is formed from urea, probably by the conjugation of that substance with the glycosin in the kidneys," thus pointing to the relation between the disturbance of the liver and the appearance of uric acid and urates in the urine; and from a study by the author the following conclusions are arrived at:

1. That gout is a definite disease, to which certain individuals are predisposed, but which depends for its development upon causes largely unknown.
2. That laziness, a full nitrogenous diet, and the use of fermented liquors predispose to the disease.
3. That so-called lithemia, as the term is popularly applied, is not gout, but is an auto-intoxication depending upon gastro-intestinal and hepatic derangements.
4. That the diet in gout should be largely free from nitrogenous substances.
5. That the diet in lithemia must be ascertained by the careful study of the primary digestion, the urine, and the general health of the patient, but a nitrogenous diet is often the most satisfactory one. L.

The Treatment of Cancer by a New Method, viz.: The Electrical Diffusion of Nascent Oxychlorides of Mercury and Zinc

Dr. G. Betton Massey says (*Med. Rec.*, Vol. LII, No. 5) that the results he obtained by the above method are of truly momentous importance to the human race. He confidently announces that a real cure has been found for sarcoma in accessible locations, and a probable cure for carcinoma similarly situated.

The principle of the method is the interstitial diffusion and impregnation of the growth with nascent oxychlorides by electricity in strong doses.

There are two ways of applying the method: the slow and the rapid.

The first method consists in introducing the positive electrode, consisting of zinc heavily coated with mercury, within the malignant growth, while the negative pole in the shape of a large pad is applied to some indifferent part of the body. Not more than five hundred milliamperes are used in this way. For up to one hundred and fifty milliamperes cocain-anesthesia, simultaneously produced by cataphoresis is sufficient; for higher currents general anesthesia is best. The application is made every day or every second day, and continued until the whole of the morbid area has been either destroyed or changed into normal tissue, before the cavity thus made is allowed to heal.

The second method, in which an operable sarcoma or carcinoma is destroyed at once, is applied as follows: The patient being anesthetized, a dozen or more lancet-shaped amalgamated zinc or gold electrodes are inserted around the periphery of the growth, each electrode being attached to one of a leash (bundle) of fine wires that lead to the positive pole of the battery. The negative pole, a disc covered with absorbent cotton saturated with a solution of potassium arsenite, iodide or some other salt with a lethal electro-negative radicle, is placed in the center of the growth itself. Everything being in readiness, a current of about a thousand milliamperes is turned on. The growth will blanch and shrink at once, while areas of destruction appear about each blade and in the center. After a duration of from five to fifteen minutes the current is turned off, and a dry dressing of acetanilid ointment is applied. Of eight cases thus treated, two were cured, two apparently cured, two benefited, and two were failures. M.

Leukoplakia Oris Treated with Pyoktanin

Norval H. Pierce (*Chicago Med. Rec.*, XII, p. 179) gives the history of a case in which leukoplakia oris, a disease also described under the names "ichthyosis linguæ," "psoriasis linguæ" and "keratosis," had existed for over a year, and in which fused silver nitrate and chromic acid had proved ineffectual after several weeks' treatment, but which immediately began to improve upon the application of pyoktanin, which was rubbed in substance into the entire affected area. As an adjunct he also employed saturated aqueous solution of aniline-oil, applying it by means of a piece of cotton tightly wound on a cotton carrier, and rubbing it in well. These applications were made daily, and, after about three months' treatment, not a sign of the disease remained. F.

Antistreptococcic Serum in Scarlet Fever

Rappoporte (*Rev. de Thérap. méd.-chir.*) has employed antistreptococcic serum containing 0.5 of 1-per-cent. carbolic-acid solution in the treatment of scarlet fever in sixteen cases; four of these were not grave, and he thinks that the use of the serum prevented the aggravation of the infection. In two cases with symptoms of great infection the serum did not exercise much action; these two patients died. In the other twelve cases treated with the serum no less than ten patients succumbed. He also found that the serum did not exercise any material influence over the ordinary course of the temperature, and concludes that its use is not satisfactory. It seems to be necessary that there should be marked streptococcic infection in addition to the infection of scarlet fever, for this treatment to be useful.

[This mortality seems to us terribly high.—Ed.] M.

Arterial Atheroma and Angina Pectoris—A New Method of Treatment

In the *Berl. klin. Woch.* (Vol. XXXIV, Nos. 13 and 14) Dr. Rumpf has an exhaustive article on the treatment of those heart-affections which result from or are accompanied by calcification of the arteries: arterial atheroma. It seems to the author highly irrational to condemn those patients to a diet rich in lime, such as milk, when the trouble depends upon an excess of lime in the body. The real treatment should consist in a diet from which lime is excluded as much as possible, and in the administration of such medicines as will have a direct effect upon the excretion of lime in the urine and feces; it is only by this method that a sort of decalcification of the arteries may be obtained. The diet as elaborated by the author is as follows: Meat, nine ounces; bread, fish, potatoes and apples, each about four ounces. This diet contains ten times less the quantity of lime than an equivalent amount of milk, and three or four times less than the diet advocated by Hoffmann as a substitute for milk. The apples in this diet may be replaced by fresh beans, green peas or cucumbers. Cheese, eggs, beets, rice, cabbage, and spinach, which are rich in lime, are to be proscribed absolutely. As a drink the author recommends distilled carbonic water, or simply water that has been boiled and cooled.

As a remedy which has a powerful influence in the elimination of lime, the author recommends a mixture of sodium lactate and lactic acid, according to the following formula:

Sodium Carbonate	2½ dr.
Lactic Acid, enough to saturate, then add	
Lactic Acid	2½ dr.
Syrup	2½ dr.
Distilled Water	6 oz.

S.—To be taken during the day.

Experiments on several patients, with arterio-sclerosis and coronary atheroma, have shown that under the influence of this solution, which acts at the same time as a harmless diuretic, the quantity of lime eliminated in the feces and urine increased over 50 per cent. Other salts, such as sodium phosphate, and a mixture of sodium citrate, sodium bicarbonate, and sodium chloride, also increased the elimination of lime, but not to the same degree as the sodium lactate and lactic acid.

The author calls special attention to the fact that by this combined dietetic and medicinal treatment the quantity of lime eliminated will exceed the amount ingested with the food, consequently the organism parts with some of its calcium salts.

Twelve cases were treated by the above method. and all were remarkably benefited. In three cases of angina pectoris the results were truly remarkable. M.

Rhus-poisoning Treated With Guaiacol

Dr. E. K. Morris, of Sturgeon Bay, Wis. (*Med. News*, No. 1252, p. 57), states that in two cases of rhus-poisoning recently treated by an application of pure guaiacol, by freely painting it over the inflamed area with a camel's-hair brush, and then covering the parts, was followed, the next day, by a marked amelioration of the trouble. On the fourth day after inaugurating the guaiacol treatment, the poisoning and its resulting inflammation had entirely disappeared in one case, while in the other the same result was had on the second day. The writer was induced to try this drug, some time ago, in the treatment of erysipelas, and with such good results. that he determined to give it a trial in these cases. and obtained the results already noted. F.

Tannalbin in Intestinal and Renal Affections

G. Scognamiglio, of Naples (*Wien. med. Blätter*, No. 2, 1897), states that he has used tannalbin in eighteen cases of acute and chronic intestinal catarrh, in which other remedies had been previously used and without effect. In almost all of the cases there were symptoms of rumbling, tympanites, tenesmus, etc., and at times, of slight fever. In all of these cases recovery came in from two to nine days. The constipating effect of the remedy was found to be wonderfully energetic and prompt, causing a rapid increase in the consistency of, and decrease of the quantity of mucus present in the feces, besides exhibiting an unmistakable antiseptic power. Even in cases where the diet was irrational, the remedy gave excellent results, the normal function of the intestinal mucous membrane being rapidly restored. Even in seven cases of dysentery occurring in tuberculous patients, the astringent effects of the tannalbin were rapidly noticeable, doses of from 2 to 4 gme. per day causing a permanent disappearance of the symptoms in from ten to fifteen days.

The writer has also used the tannalbin in seven cases of kidney-disease, one of which was an albuminuria following nephritis acuta a frigore, one an albuminuria following nephritis scarlatinosa, and one an albuminuria consequent upon a nephritis induced by active inflammation. In these cases the albuminuria (amounting to from 1-5 to 1 per cent.) disappeared in from twenty-five to sixty days upon the administration of from 0.5 to 1 gme. of tannalbin. In conclusion, the writer states that, in his estimation, tannalbin is at the head of all the remedies used as intestinal astringents. Its tastelessness and innocuousness, as well as the freedom from any untoward symptoms following its use, the invariableness of its effect and undoubted action on the more or less affected large intestine (even when of tuberculous origin) are the principal advantages. F.

Treatment of Cancer of the Stomach

Dr. Alb. Robin (*Rev. de Thérap. méd.-chirur.*, LXIV, p. 14) gives the following method of treating gastric cancer: The regimen should consist of lean fish (sole, turbot, whitefish, etc.), tender fowl in the form of soup, jellies, meat-powders, and peptones. A vegetable diet of peas, lentils, beans, etc., should also be insisted on. Condiments, too, are advised. All fermentable foods are to be avoided, such as bread, cheese, etc. Milk and kefir are often ill-borne. As for liquids, beer, extracts of malt, and champagne diluted with carbonated water, are recommended.

The medical treatment consists in stimulating the appetite by means of cundurango in the form of wine or decoction (1:10). Strychnine may also be given, or wine of theriac, or cachets each containing:

Ammonium Chloride	0.15 gme.
Sodium Bicarbonate	0.25 gme.
Dover's Powder	0.10 gme.

In order to assist digestion a large glassful of the following should be taken during the meal, in small portions:

Hydrochloric Acid	1.5 gme.
Water	1,000 gme.

And during the meal a cachet containing:

Pepsin	0.5 gme.
Maltine	0.1 gme.
Pancreatine	0.1 gme

To diminish the fermentation, sulphur may be given, or a solution of ammonium fluoride 1:300, in tablespoonful doses during meals.

To combat the vomiting, cocain, chloroform-water, entholated water, or from

5 to 8 drops of the following solution are given:

Picrotoxin	0.05 gme.
Morphine Hydrochlorate	1.05 gme
Atropin Sulphate	0.01 gme.
Cherry-laurel Water	10 gme.

To control the hemorrhages, hypodermic injections of ergotin in the epigastric region, or ergotin internally may be given; where the hemorrhages are slight, tannin (0.1 gme. every four hours), or ferric chloride may be used.

Pains may be treated by the application of the following plaster to the pit of the stomach:

Diachylon-plaster	5 parts
Opium-plaster	5 parts
Extract Belladonna	1 part
Extract Conium	1 part
Extract Hyscyamus	1 part
Ammonium Acetate	2 parts

Bromides or morphine are given internally. If the pains are very severe, hypodermics of morphine are employed.

The best reconstructive agents for the cachexy are the glycerin phosphates, given either internally, or subcutaneously, as follows:

Sodium Glycerino-phosphate	0.2 gme.
Water	1 gme.

Five or six gme. of such a solution are injected daily. F.

Researches on the Use of Chalk-bread (Gout-bread)

Bul. gén. de Therap. (No. 17, Tom. XI, pp. 530-1, 1897) states that according to the researches of v. Noorden, the carbonate of lime ought to prove useful against nephritic calculi by diminishing the acidity of the urine and its richness in acid phosphates and in dissolving the urates. It never causes an alkaline reaction of the urine.

The administration of enough of it to give this therapeutic effect (6 to 8 dr. a day) presenting great difficulties, G. Herxheimer (*Berl. klin. Woch.*, May 17, 1897) decided to manufacture a bread of hard rye containing 5 per cent. of carbonate of lime, finely powdered and well mixed in the bread.

Observing on himself the influence of this bread on the metabolism, he found that the diuresis and the nitrogenous exchange are little modified; so also of the elimination of uric acid. The lime eliminated was less than that taken in with the bread. The greater part was eliminated with the fecal matter, and the urine contained only a small part of it. The uratolytic properties of the urine were increased proportionately to the increase of biphosphate of soda held by it. The acidity of the urine is diminished as soon as the amount of bread daily administered reaches 250 gme. (12.5 gme. of $CaCo_3$). The bread is best prescribed for periods of five to eight weeks, after which its use is suspended for two months.

It is equally useful against diarrhea and membranous enteritis. H.

Treatment of Chronic Enteritis and the Utility of Eudoxine as an Intestinal Antiseptic

Dr. N. S. Davis, Jr., Chicago (*Med. Stan.*, Sept. 1897), reports the results of extensive employment of a new intestinal antiseptic, principally in chronic enteritis. The new compound is eudoxine, a combination of iodine and bismuth, the exact nature of which is indicated by its chemical name. It is the bismuth salt of tetra-iodo-phenolphtalein (nosophen), and contains 52.9 percent. iodine. The iodine is, however, not free, but acts in unchanged chemical combination with phenolphtalein, it is, therefore, non-toxic and non-irritant. Eudoxine is tasteless and odorless, and can be taken in large quantities without producing any disturbance of the system. It passes through the stomach, except when alkaline without change, but when it reaches the alkaline juices of the intestines it is split into bismuth oxide and sodium tetra-iodo-phenolphtalein (antinosine). The latter is a soluble compound and secures complete disinfection of the intestines, as it passes through the intestinal coats by way of the absorbents, and, according to Binz and Zuntz, is again secreted into the intestinal lumen, so nothing of the intended effect is lost.

Dr. Davis has employed the drug in a large number and in a great variety of cases, and finds that it checks intestinal fermentation more certainly and more promptly than any of the other intestinal antiseptics which he has used, excepting naphthol.

As it is much more agreeable to take, and apparently entirely harmless, he finds it to be, of the two drugs, the more eligible. Especially is it so for the treatment of children. The adult dose, in cases of ordinary fermentation, is from 3 to 5 grn. four times daily.

Whooping-cough Mixture

R. A. Lancaster recommends the following:

Tincture Belladonna	10 gme.
Phenacetin	5 gme.
Rye Whisky	15 gme.
Fluid Extract Chestnut-leaves	60 gme.

From ten drops (for children of 1 year of age) to a teaspoonful every two to six hours.

PEDIATRICS

Edward N Liell, M.D., Herman B. Sheffield, M.D.,
H. P. De Forest, M.D., H. T. Hotchkiss, M.D.

Treatment of Grave Cases of Whooping-cough

According to *Med. Week* (V, p. 36) Dr. F. Gundrum (Sacramento) has had recourse with excellent results in serious cases of whooping-cough to a treatment consisting in simultaneous employment of the three drugs which hitherto have proved most efficacious in combatting the disease, viz., bromides, belladonna, and quinine, the digestive tube having first been thoroughly cleansed by a medication which is both purgative and antiseptic.

With this object in view, he first administers the following mixture:

Calomel. .. .. } aa 0 gme. 6 ctg.
Powdered Ipecacuanha }
Sugar of Milk .... 1 gme. 20 ctg.
Mix and divide into eight powders.
One powder every hour, until all are taken,
then give a dose of castor-oil.

On the following day, this mixture is given:

Sodium Bromide .... 8 gme.
Atropin Sulphate... .. .. ½ to 1 ctg.
Syrup of Orange-peel . .... 90 gme.
Mix.—A teaspoonful every 3 hours.

At the same time, 10 ctg. of quinine are given every three hours, alternating with the above mixture.

This treatment is continued until there is marked attenuation of the attacks, or until mydriasis and tinnitus aurium supervene.

F.

The Treatment of Children With Creosote

Hock (*Wein. med. Blätter*) has had brilliant results from the use of creosote in treatment of children, not only in phthisis but in the sequelæ of whooping-cough and the catarrh which so often follows measles. These two conditions, as is well known, furnish a favorable opportunity for tuberculous infection. The usual treatment with expectorants is too often without result. Most diseases of childhood are accompanied by disturbances of digestion, and these are the symptoms which are first relieved by the use of creosote. The appetite improves, the abdominal pain disappears, and weight increases. Later the pulmonary condition improves. The creosote must be given in such a manner as not to upset the stomach, and large doses in a concentrated form are therefore to be avoided, the drug being given in small doses with meals. Pills, though cheap, are objectionable, especially for very young children. Hock tried in a number of instances to administer fluid creosote with tincture of gentian, but in almost every case the stomach refused the medicine after a few days. He was most successful with a 1- to 2-per-cent. solution of creosote in cod-liver oil, to which one-twentieth of 1 per cent. of sugar was added. The dose of this mixture is from ½ a dram to ½ an ounce, three times daily, according to the age of the patient.

F.

Persistent Vomiting in Infants

Dr. H. A. Dumat (*South African Med. Jour.*, August, 1897) believes that this symptom is generally due to catarrh of the stomach, caused by absorption, along with some article of diet, of microbes, which, breeding in the stomach, produce an irritant ptomain. Although the repeated emesis must get rid of much of the irritant, enough of the latter still remains to continue the process.

The aim in treatment should be, not to soothe the gastric mucosa, as we do with hydrocyanic acid and bismuth; not simply to neutralize the acid generally present, as we do with soda; not to counter-irritate over the epigastrium as we do with mustard plasters; all very good remedies in their way, and often useful, but remedies which do not strike at the root of the matter. Our aim should be to wash out and disinfect the stomach.

Large draughts of warm water, which is generally vomited, immediately followed by a weak solution of creosote is a useful remedy. He has lately employed with much success, a weak solution of lactic acid (1—240). The drug is mixed with glycerin in the proportion of four minims of the acid to a drachm of glycerin, and the nurse is instructed to mix a drachm of this solution with 15 dr. of water. Most of it, mixed with a quantity of mucus, is brought up immediately after swallowing. The dose is then repeated within an hour or two. It is again thrown up, in all probability, but this time the washings are not so dirty; and the third and fourth times the washings, if they come up at all, are clean. Then it is well to give a gastric anodyne, such as a mixture of hydrocyanic-acid, bismuth, and chloroform-water, and when two or three doses of this have been retained, to allow a small quantity of broth, barley-water or albuminous water.

[In our opinion, lavage of the stomach is a much more rapid and effective means.—Ed.]

O.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Hysterical Mutism

In *Riforma medica*, 1897, p. 42, Fazio recommends for the treatment of hysterical mutism, etherization up to the stage of preliminary excitation. The etiology of the affection he believes to be the hindrance of a fixed idea. By etherization this hindrance is removed and the physiological effect of the ether-stimulation produces a cure. J.

The Cerebro-spinal Fluid

Nowratzki, in the *Deutsche med. Woch.*, 1897, No. 2, states that in healthy calves the cerebro-spinal fluid contains .046 per cent. of grape-sugar, .01 to .03 per cent. albumen, .28 per cent. organic constituents, 1.07 to 1.1. per cent of dry residuum, 7 to 8 per cent. ash. In the organic constituents albumoses and peptones were not found; the albuminoid was a globulin.

In the cerebro-spinal fluid of paralytics as much as 5 per cent. grape-sugar was found. After death a rapid diminution in the amount of sugar was observed. J.

On the Tréatment of Epilepsy

When Flechsig announced his opium-bromide cure for epilepsy many unfriendly criticisms appeared in the various journals. He has in part answered many of these objections in the *Neurologisches Centralblatt*, 1897, No. 2, and further insists upon the principles laid down in his previous article. This method is not a good one to begin a case upon, its results would seem to be more constant after a course of the bromides had been tried, when the intercalation of the opium between the bromides seems to give noteworthy results. The causes for the happy results are still uncertain. Flechsig thinks that perhaps the ordinary dietetic measures are responsible in great part for the success of the treatment. J.

Distraction of the Attention

The subject of attention has so many important bearings that the study on addition and on the discrimination of odors by F. E. Moyer, Ph.B., in the *Amer. Jour. of Psych.*, Vol. VIII, p. 405, is of interest.

The author's results may be summarized as follows:

1. Addition as a distraction does not affect all persons or the same person at different times in the same way, and in some cases does not act as a distraction at all.
2. Practically the same thing may be said of writing the words of a sentence in reverse order, and of spelling words backward.
3. Even so complicated a distraction as translating into a foreign language, and then writing both words and sentences in reverse order, does not produce results which show steady inattention.. The best results reached with it were caused not so much by the complexity of the process as by the effective tone given to the distraction bv the interest of the subject in the operation.
4. The method of distracting by requiring the subject to discriminate odors approached most nearly of all forms examined to the production of a state of inattention which is continuous, capable of gradations, and uniform. With care in the selection of the odors given, the method may quite possibly furnish the measure of attention required for experimental work. K.

The Pathological Significance of Toxic Substances in the Urine of the Insane

In the *Revista di Freniatria*, Vol. 22, p. 114, Dr. R. Pellegrini gives an extended study of the toxic substances found in the urine of the insane.

Chemically, some of his results were as follows:

1. In the urine of the insane, in general the quantities of potassium-indigo sulphates are much more than in the urine of the sane.
2. No differences are to be found in the urines of the sexes.
3. In the general forms of idiocy, imbecility, and simple-mindedness, the quantity of potassium-indigo sulphates is almost in the same proportion as that found in the urine of sane people.
4. In all of the other forms of insanity an increase of potassium-indigo sulphates is met with, this being especially so in the cases of the toxic insanities and of general paresis.

Animal experimentation led the author to the further conclusions, as follows:

1. In the urine of the insane in general one finds an increase in the potassium-indigo sulphates.
2. The urines of the insane are, in general, more toxic than those of the sane.
3. In the same form of mental disease the uro-toxic coefficient is in direct proportion to the amount of potassium-indigo sulphates.
4. The increase in the amount of this salt depends for the most part upon the torpid condition of the gastro-intestinal tract, which is such a prevalent feature in insanity. J.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D., DAVID M. STABLER, M.D.

Dressing Suppurating Wounds With Sodium Carbonate

Dr. Guéorguievsky, a Russian army physician (*Med. Week*, V, p. 131), has made the important observation that compresses, soaked in a 2-per-cent. solution of chemically pure sodium bicarbonate, covered with some impermeable tissue, will stop purulent secretion and arrest phlegmonous inflammation more rapidly than all ordinary antiseptics, such as carbolic acid, iodoform, etc.

He discovered this remarkable property of sodium bicarbonate accidentally in a case of whitlow. There were phlegmonous inflammation of the index finger with extension to the palmar aspect, and edematous swelling of the back of the hand and of the lower third of the fore-arm. The finger was incised, and a great quantity of pus issued from the opening, which was afterward washed and plugged with a band of gauze, impregnated with iodoform ointment (iodoform, 2 gme.; balsam of Peru, 4 gme.; oil of peppermint, 4 drops; vaselin, 15 gme.), and the whole covered with an antiseptic dressing. In the evening of the same day, the suppuration was still very abundant, the palm of the hand very painful and of a leaden color. A sound was introduced into the opening, passed up beneath the tendon of the common extensor of the fingers and on for 8 centimeters under the soft parts of the palm. Dr. Guéorguievsky wanted to make a counter-opening at this point, but only succeeded in scratching the thickened epidermis, the patient having suddenly withdrawn his hand.

The surgeon then decided to postpone the operation, and, in order to soften the tissues, ordered the whole hand to be enveloped in gauze compresses, soaked in a 2-per-cent. solution of sodium bicarbonate. Next morning, on examining the hand, he was extremely surprised to see that the condition was very different; there were no pain, no redness, no swelling of the parts; there was no trace of any suppuration on the dressing or in the wound, and not a drop of pus could be brought out by pressure on the finger or on the palm. The compresses —which the patient called "magical"— were continued, and the cure was completed in an extremely short time.

Since then, Dr. Guéorguievsky has often treated in the same way cases of whitlow, or of other circumscribed or diffuse phlegmonous inflammation. He first incised the purulent collection, gave issue to the pus, and covered over the surface of the open wound and the whole inflamed region with compresses soaked in a 2-per-cent. solution of sodium bicarbonate. In every instance, the pain and the suppuration were arrested, and cure was rapidly completed without the use of any drainage, which is so often the cause of intense suffering to the patient. In several cases it was possible to prove by direct experiments the superiority of sodium bicarbonate over the antiseptics which are in common use in the treatment of inflammatory lesions. Whenever, in these cases, the sodium bicarbonate was stopped and the iodoform ointment applied, the suppuration at once returned, but ceased again as soon as the sodium-bicarbonate dressings were reapplied. F.

Actinomycosis of the Left Mamma

At the January meeting of the Chicago Gynecological Society (*Amer. Gyn. and Obstr. Jour.*) a rare case of the above was presented by Dr. McArthur, giving the following history: Age 22, unmarried. No manifestations of the disease until eight weeks previously, when she accidentally discovered a small, flattened mass in the upper part of the left mammary region, the mass measuring in area about one by two inches, was oblong in shape, free from pain, but tender to pressure. Some days thereafter the patient was anesthetized and an incision made over the tumefaction, a small piece being removed for microscopical examination. This proved to be normal mammary-gland tissue. Three weeks later she noticed a slight discharge of pus from a sinus situated above the site of the exploratory incision, the discharge being viscid, yellow, and mixed with blood. The patient again submitted to operation, a semicircular incision being made about the inner half of the breast (left), and the breast elevated. The pectoralis major and minor muscles were then incised, a dirty chocolate-brown débris being found behind the mamma and under the pectoralis major. In it many minute yellowing granules were found, which, under microscopical examination, revealed the typical actinomycotic ray-fungus. The walls of the cavity containing the débris were covered with numerous small sulphur-yellow colored bodies. As the growth showed a tendency to spread after the operation, a second operation was subsequently performed. The gland was almost dissected off, being left to hang on its outer edge, the necrotic débris curetted out, the actual cautery applied, and the wound left to heal by granulation. Since that time numerous subcutaneous sinuses have appeared at different places near the edge of the wound, the discharge always containing the characteristic granules. Ninety-five per cent. carbolic acid was used for injecting the sinuses when dressing the wound, which checked the progress of the disease, the wound at present being in excellent condition, covered with healthy granulations, rapidly healing, and the patient has gained twelve pounds in weight. The patient gave no history of any former inflammatory trouble, nor any family history of either tuberculosis or syphilis.

L.

When to Crush and When to Cut for Stone in the Bladder

According to E. Fuller (*Post-Grad.*, August) litholapaxy causes no mutilation, and in the hands of a skilled operator is attended with less danger than a cutting operation. If a stone lies free in the bladder—that is, if it be not encysted; if its diameter be not too great to prevent its being caught between the blades of the lithotrite, and if it be of such consistency as to allow of its being fractured, there is nothing, as far as the stone is concerned, to stand in the way of a crushing operation. If it be found that a nucleus of rubber, wire, gum, paraffin, straw, wood, or bone, exists, it is better, as a rule, to abandon the crushing method and to complete the extraction by making an opening into the bladder. In cases of vesical atony it may be difficult to wash out all the fragments. In some cases where abnormal conditions of the bladder exist, such as sacculi or pouches, generally post-prostatic ones, it may be impossible to remove every fragment secreted. Prostatic senile hypertrophy, and very rarely other abnormal conditions of the prostate, may interfere with the performance of litholapaxy by restricting the movements of the lithotrite. Sometimes a calculus may project from a sacculus, being partially encysted; such cannot be radically treated by litholapaxy, since the stump, as it were, of the calculus cannot be removed, but remains to act as a focus about which fresh concretions can collect. Of more importance than the causes which may exist to prevent the performance of litholapaxy are those which act to render it of but temporary benefit. In this class of cases the formation of stone in the bladder is really only secondary to, and dependent on, existing diseased conditions. Stones of this class are phosphatic and originate in the bladder, due to the prevalence of pathological conditions favoring infection. Prostatic disease, most often of a senile nature, is the chief cause for an habitual inability to empty the bladder either completely or partially, favoring decomposition of urine and phosphatic deposit. Other diseases, such as spinal paralysis, vesical and pelvic growths, stricture, etc., may also be present. The cutting operation is here indicated, to correct the vesical disease which causes the stone-formation, at the same time removing the stone. If litholapaxy be attempted as a palliative measure, the patient as well as those who stand sponsor for him should be plainly told that it is probable the operation will have to be repeated, thus relieving the surgeon of any blame should a second one form subsequently. The principal cutting operations are the median perineal, lateral perineal, and the suprapubic. Large calculi have also been removed on several occasions by means of a Kraske incision. Many times the suprapubic operation will be required to correct diseased conditions of the prostate which have occasioned stone.

L.

The General After-effects of Ether

At a meeting of the Boston Society of Medical Sciences, held June 1, 1897 (*Jour. of the Bost. Soc. Med. Scien.*), Dr. J. B. Blake gave the results of a study of the above subject.

Of 158 cases in which the vomiting alone was investigated—in 53 it was present, about 33 per cent.

More than once it happened that patients in excellent general condition vomited more profusely after a short, simple operation than others who were on the table for more than an hour.

In regard to the severity of vomiting—it was present in moderate degree in a large majority of cases; in these cases the patient vomited only once or twice, and at times the vomitus consisted only of mucus. It might be said that vomiting was considered present if there were spasmodic contractions of the diaphragm or if only a small quantity of mucus was discharged from the mouth. In about 15 per cent. of cases the vomiting was severe, but in none dangerous.

How or why ether produces vomiting has not been definitely shown. In a general way it is supposed to be in proportion to the amount of ether administered. It must also depend, to a certain degree, upon the constitutional peculiarities of the patient. The age of the patient apparently has no influence. It has seemed to the writer that vomiting is present to a considerably greater extent in private than in hospital patients, and apparently it is certain that the more skilful the etherizer, the less and less frequent will be the vomiting.

In 94 patients the condition of nausea was investigated. It was present in 38. The nausea was usually moderate in amount, and, as a rule, did not cause great discomfort.

Of 94 cases headache was present in 36. In many of these it was extremely slight, and would never have been elicited except by leading questions. It was almost invariably frontal—sometimes extending to the vertex, but very rarely to the occipital region. In 2 cases it was unilateral. It did not bear a constant relation either to the vomiting or the nausea. Its duration was, in the majority of cases, from two to six hours.

Cough was investigated in 94 cases; was present in 20 cases, and severe in 3. In these three there were moist râles in the lungs, particularly in the backs and bases of both sides, without dullness, and lasting from twenty-four to forty-eight hours; two of these patients complained of soreness in the chest. The others as a rule did not complain of cough until asked about it. It continued from three to six hours as a rule, and could not be found to bear any constant relation to the other symptoms above noted. The so-called ether-bronchitis was certainly not present in more than three cases, and it was noted that those patients in whom mucus and froth were present in mouth and throat in large quantities during etherization, were not the cases in which cough was most annoying. As a rule there was but little expectoration, and often none at all.

It is interesting to notice that of 94 cases carefully examined, only 20 were free from all unpleasant after-symptoms. If this is true in this class of patients, who are as a rule strong, healthy, and not given to exaggerating symptoms, it is more apt to be true of private cases, who are more easily influenced by irritants of any sort, who suffer pain more acutely, and usually look forward to an operation with considerable apprehension.

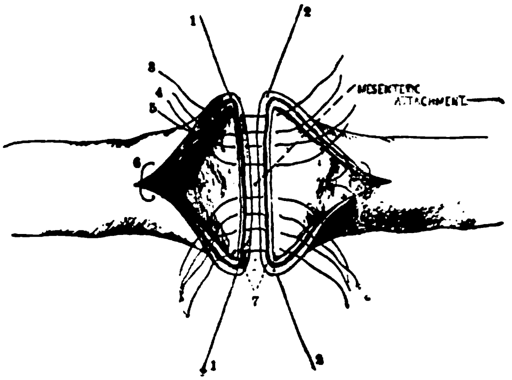
Certain drugs, especially atropine sulphate, in 1.60-grn. doses, especially tend to diminish the vomiting, as well as the excessive secretion of mucus. Absence of food before and plenty of air during etherization also tend to minimize it. But how to eradicate it is not evident. B.

New Method of Intestinal Anastomosis

Dr. F. W. Hartigan presents a new method of intestinal anastomosis in the *New York Medical Journal* (Vol. LXVI, No. 3), which is as follows: A pair of sharp scissors is made to divide the entire thickness of the walls of the upper and lower ends of the divided gut in a longitudinal direction, at a point opposite the attachment of the mesentery, for a variable distance, a third to a half the circumference of the tube at the divided part.

Four sutures are next inserted, two in the upper flap and two in the lower flap—that is, one in each corner of each flap.

These are held by assistants, and when traction is made on them the flaps are stretched out flat at the cut ends. The mesentery, which has been excised, in case of excision of part of the gut, is united by the interrupted suture, and is not dissected back at all from the attachment to the intestine.



1, 1, 2, 2, retaining sutures held by assistants (they should pass through the peritoneal coat; the cut shows them passing through the subperitoneal coat); 3, 4, 5, sutures; 6, a suture tied within the tube; 7, the peritoneal coat.

It is plain from this description that the mucous surfaces now look up—face the operator—and the peritoneal surfaces look down. Interrupted sutures are now passed, entering the mucous surface, say of the upper flap, passing through all the coats, emerging a fourth or an eighth of an inch from the edge of the peritoneal surface of the same flap, passing then to the peritoneal surface of the lower flap, entering this surface a fourth to an eighth of an inch from the cut edge, passing through all coats of the bowel, emerging from the mucous surface. Each suture is tied when put in, and by starting with one at the point of the mesenteric attachment, then taking sutures, first on one side of this point and then on the other, very accurate apposition of serous surfaces is obtained as the sutures are tied, one at a time, till the corners are reached. A longitudinal wound now remains—no longer, however, than the one required to pull the ends of the gut through in the Maunsell operation. The longitudinal rent may be united by a suture made by passing the needle through all the coats, from within outward on one side and from without inward on the opposite side, and tying, when the knots will be within the lumen of the tube. The last two or three sutures may be of the Lembert variety, as the Vezien suture is hard to tie when the longitudinal rent becomes short. M.

The Murphy Button in Gastro-enterostomy

Dr. Willy Meyer (*Annals of Surg.*, Vol. XXVI, No. 1, p. 31) attempts to estimate the value of the "Murphy Button" in gastro-enterostomy. He has been able to collect from published reports and personal letters sixty cases in which the button was used in gastro-enterostomy. In this collection he has taken only the cases of surgeons who had performed the operation three or more times. Of these sixty cases, thirty-eight recovered, and twenty-two died, or a mortality of 36.66 per cent. Of these, fifty-one were for cancerous stricture of the pylorus, with a mortality of 43.13 per cent. The nine cases operated upon for benign stricture showed no mortality.

The advantages of the button as set forth by Meyer are as follows:

1. The anastomosis is made very rapidly; six to eight minutes.
2. The patient can be fed by the mouth as soon as he has recovered from the anesthetic.
3. The anastomosis does not contract.

As to the danger from the button dropping back into the stomach, Meyer states that in five of his own cases this accident happened three times. He does not regard this as of serious moment, as no harm has resulted. To avoid such an accident, he advises the posterior or Von Hocker operation in preference to the anterior operation.

His conclusion is: "For gastro-enterostomy Murphy's button is the best artificial contrivance up to date." T.

Contagiousness of Cancer

Noël has recently (*Thèse de Paris*, 1897, and *Brit. Med. Jour.*, No. 1906, Epitome, p. 6) brought together a large mass of facts bearing upon the infectious nature of cancer. He cites many facts that would seem to support the idea that the origin of cancer is to be found in some condition affecting both animal and vegetable organisms. This idea was previously brought out by Fiessinger, and rests on the fact that cancer seems to be most frequent in isolated houses near rivers, and especially in the vicinity of woods. Noël attempts to prove that a certain relation exists between "aboreal" cancer and that of man, and that persons obliged to pass much time in or near forests are more prone to cancer. In support of this he cites the "excise officers," who in certain parts of the country spend much time in the woods, and he states that cancer is very common among them. He further states that a malignant vegetable tumor is found in the woods, and this is evidently contagious. Insects, especially wasps, are especially susceptible to arboreal "cancer." They not only carry the infection from one tree to another, but also scatter it upon human food, hence the ease with which it could find its way into the human body, either by the stomach or by contact from the hands. T.

Massage in the Treatment of Fractures

Dr. Woolsey (*Med. News*, Vol. LXX, No. 12) summarizes his article with the above title as follows:

1. The treatment of such fractures, especially those near joints, by immobilization, whether ambulatory or not, leaves something to be desired in (*a*) the time required and (*b*) the functional result obtained.
2. The treatment of such fractures by massage and passive motion shortens the time of bony union by one-third or one-half, and vastly improves the immediate functional result.
3. This treatment is especially applicable and important in fractures near joints.
4. Its application is easy. It relieves pain and swelling, hastens callus-formation and solidification, prevents atrophy of the muscles and stiffness of the joints and tendons.
5. Splints should be applied between the daily fifteen- or twenty-minute applications of massage for the first ten or twenty days, according to the nature of the fracture and the tendency to displacement, or until consolidation occurs.
6. This treatment, combined with the ambulatory method, promises an ideal method.
7. Oblique fractures of both or the only bone in a limb, or fracture near the middle of the limb with a tendency to displacement, should be immobilized until consolidation has commenced.
8. The ambulatory treatment is indicated in the latter classes of fractures, in fractures of the lower extremity in the alcoholic or very aged, and in fractures of the neck of the femur in the aged.
9. The plan of immobilizing the limb for a short time in the best possible position, and then applying massage and passive motion, promises equally good results, and especially adapts the method to private practice, in which it is particularly indicated on account of the shortened time required for union and the excellent functional results.

M.

EYE, EAR, NOSE, AND THROAT

JOHN C. LESTER, M.D., HEBER N. HOOPLE, M.D.,
VINCENT GOMEZ, M.D., WM. C. BRAISLIN, M.D.

A Case of Retro-pharyngeal Cyst

Cesaris-Demel (*Gazz. degli Ospedali*, July 18, 1897) reports a case of retropharnygeal cyst, which he found in a man who died from an injury. The cyst was behind the mucosa in the supero-posterior angle of the pharynx, and was about the size of a hen's egg. The contained fluid was stringy, with a slight amount of sediment, and the fibrous cystic capsule was very strong and lined internally by a tuberous mass of glandular appearance. The histological examination of this tissue showed the structure to be similar to the thyroid body, with many follicles partly obliterated and containing some colored matter. Around the cyst, in the lateral region of the neck, he found many nodules of accessory thyroids; thus the cyst was due to the cystic degeneration of one of those nodules in a very unusual place. W.

New Treatment of Trachoma

A paper on this subject in *Rev. méd. de Louvain*, Feb., 1897, by Dr. Lacompte, is condensed in *Recueil d'Oph.* (No. 8, p. 492). The diseased mucous surface is first scraped and then rubbed two or three times with a 6- or 7-per-cent. silver solution. This is next neutralized by a 3-per-cent. solution of cocain hydrochlorate. The cocain is repeated occasionally for a few hours while the pain lasts. Boric-acid solution is used to keep the eye clean. A solution of antipyrin is used twice a day to continue astringent action and aid in getting rid of the buffy coat formed over the scraped surface. After it comes off, sulphate of copper is used daily for five or six weeks until healing is complete. Then the bichloride solution is employed for five or six months or more. The author has always had excellent results in the two hundred patients thus treated. H.

Tubercular Laryngeal Affections Treated with Parachlorophenol

Rev. de Thérap. méd.-chirurg. (No. 3, p. 92, 1897) sums up a review of Spengler's work on "Parachlorophenol as a therapeutic measure in tuberculous affections of the larynx and its disinfectant properties in regard to pure cultures from Koch's bacillus and tuberculous sputa." His clinical observations were made from twenty-six cases of tuberculous laryngitis; his experiments were made with pure cultures on glycerin agar or in glycerin bouillon. From these he formulates these conclusions:

1. Glycerin-solutions of parachlorophenol 10 per cent. increased gradually, applied locally to surfaces of ulcers, cause their cicatrization and the absorption of the tuberculous infiltrations.
2. There are no reaction-phenomena, and no irritation.
3. These solutions act anesthetically in all forms of tuberculosis. This action lasts several days, while that of cocain is very short.
4. It can be applied in all forms and at all periods of the laryngeal inflammation.
5. In lupus of the mucous membrane, it is also efficacious.
6. It is a most energetic disinfectant of pure cultures and of sputa. H.

Nasal Obstruction and the Symptoms of Cardiac Disease

Dr. G. R. Lockwood concludes his paper with the above title (*N. Y. Med. Jour.*, Vol. LXV, No. 3) with the following summary:

1. It is highly probable that patients with cardiac disease are more subject than are others to nasal obstruction.
2. Nasal obstruction occurring in a patient with cardiac disease may upset the balance of respiratory compensation and produce decided symptoms.
3. Unless care be taken these symptoms may be mistaken for those of failing compensation, and may lead to a gloomy prognosis and a faulty treatment.
4. Unless the nasal obstruction be properly relieved and the patient allowed a sufficient quantity of good air, the arterial spasm may possibly occur, throwing an increased amount of work on the heart, already handicapped, and may become a factor in inducing dilatation. The effect of the poor quality of the blood thus supplied to the endocardium must also be taken into consideration.
5. Nasal examination made during the day may not reveal the actual obstruction, which is most apt to appear at night when the patient is recumbent and the circulation is in its most sluggish state. To the congestion of the posterior portion of the inferior turbinated bodies thus induced the characteristic nocturnal attacks are to be ascribed through the medium of asphyxia and arterial contraction. Nasal examination, however, usually reveals extreme vaso-motor irritability of the turbinated bodies.
6. In cases of cardiac disease, including angina and pseudo-angina pectoris, no es-

timate of the patient's condition can be made and no rational treatment can be inaugurated without a thorough examination of the patency of the upper respiratory passages. M.

Gout as a Cause of Ear-disease

According to Dr. Charles Baum (*Phila. Polyc.*, Vol. VI, No. 30), the same toxic cause which produces the well-known ordinary symptoms of gout, does produce otalgia. Gouty otalgia does not differ in its symptoms from ordinary earache, except that the intensity of pain is most severe during the "small hours" of the night, and that it is most rapidly relieved by appropriate constitutional treatment.

Tinnitus aurium, of gouty origin, is slowly increasing in frequency. In such cases as a rule, the acuteness of hearing is not affected; vertigo is frequently absent; pressure-sensations from within upon the external tympanum are common, especially during a paroxysm of gout in the classical locality; posture of the body does not influence the intensity of the sound to any great extent,, but the degree of the saturation of the blood by the gouty poison increases or diminishes it. The character of sound varies as in ordinary tinnitus aurium. During the night, the sound is most marked. Long-continued and local treatment has been of no avail. Proper constitutional treatment will greatly relieve or almost remove the tinnitus aurium. It is doubtful if a complete cure can be obtained. C.

Double Cysticercus in an Eye

Pergeus (*Klin. Monats. f. Augen.*; ref. in *Brit. Med. Jour.*) relates the case of a girl, aged 21, who had been under observation since May, 1895. She then complained of failing vision in the left eye, and could only count fingers excentrically, in the upper and lower parts of the field. With the ophthalmoscope a cysticercus could be seen in front of the papilla, its outlines being iridescent and the scolex freely movable in the vitreous. The scolex had four suckers, and was darkly pigmented, but there was no circuit of hooks. Behind the bladder the retina was detached and greyish in color. On the temporal side there was a second globular detachment of retina. The tension was scarcely below normal. Two days later the temporal detachment showed a rupture, and disclosed the second cysticercus. The cysticerci could be well seen by oblique illumination, and the patient correctly projected their movements. Extraction was recommended, but refused. All the time she was under observation the iris retained its normal color and reactions, and accommodation was undisturbed. Sometimes the scolices were withdrawn, but soon projected again. The patient was accustomed to eat much salad and raw meat, but never suffered from tape-worm. The nasal scolex remained free, the other becoming encapsuled; the retina became almost completely detached, and here and there showed formation of new vessels. Vision fell to perception of light, tension —1, the vitreous became more and more opaque, and divergent strabismus ensued. B.

Practical Points about the Corneal Reflex

Dr. Edward Jackson stated before the Philadelphia College of Physicians and Surgeons (*Med. and Surg. Reporter*) that the small, bright image of the lamp-flame reflected from the cornea, when the ophthalmoscope is used, and formed by rays reflected from about the sight-hole of the mirror to the eye, and from the cornea, back through the sight-hole, is always seen in the direction of the center of the curvature of the cornea. Hence, as the surgeon's eye is moved, or the patient's eye is rotated, the corneal reflex appears to move across the pupil exactly as would an opacity situated at the center of curvature of the cornea; that is, at a point usually about one-half millimeter behind the posterior pole of the lens.

The comparison of the relative rate of apparent movement of opacities, situated in this portion of the eye, with the movement of the corneal reflex across the pupil, determines very accurately the depth of such opacities behind the summit of the cornea; since the curvature of the cornea, the length of its radius of curvature, is readily measured with the ophthalmometer.

In the usual ophthalmoscopic examination by the direct method, the corneal reflex causes a circle of diffusion on the surgeon's retina, which interferes with the success of the examination, if the pupil is small. Since the size of this circle of diffusion depends directly on the size of the sight-hole in the mirror, by making the sight-hole small the examination is facilitated. He recommended a sight-hole two millimeters or less in diameter. B.

◆

Intestinal Antiseptic Mixture

De Maximovitch is credited with the following formula (*Indép. méd.*):

Naphtol..........	3 gme. (45 grn.)
Chloroform......	1 gme. (10 min.)
Castor-oil................	100 gme. (3 oz.)
Oil Peppermint............	5 drops.

Tablespoonful (for children a teaspoonful) per dose, in port-wine, beer, or hot and sweetened black coffee.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M.D., HOMER E. FRASER, M.D.

Ringworm Diagnosed by the Microscope

Dr. N. N. Walker, in the *Scottish Med. and Surg. Jour.* (September, 1897), gives the following directions: With a lens the suspected spots are searched over in order to find the short black stumps characteristic of the disease. If these are found, the microscope is not required in one case in fifty. But, he says, cases occur in which short hairs are accidentally present in other diseases, and it is well to confirm the diagnosis. If the hairs are mounted, the mistake made in the wrong method will soon be seen; the little stump which has been removed is almost entirely concealed by fungus, of the nature of which there can be no doubt. Occasionally broken hairs cannot be found, and in such a case the physician must take some of the scales which cover the surface, removing them pretty roughly, and in nearly every case he will find, under the microscope, tiny fragments of fungus-laden hair entangled in the scab. This method of examination is a rough-and-ready one, with its uses but its limitations, and for more perfect results it is necessary to turn to staining agents. The method designed by Dr. Calhoun is, perhaps, the best, and consists in the following procedures: The hairs and scales are put on a slide, and a drop of gentian-violet from 1 to 5 to 100 added. Here it must remain at least five minutes. It is then treated with Gram's solution for three minutes, or longer, and dried with blotting-paper. Then a drop of aniline-oil, with enough iodine in it to make a dark sherry-color, is added, and after a little washing to and fro, it is examined under a low power. In most cases this is enough; but if the specimen is to be preserved, it must be washed in pure aniline, and then in xylol before mounting. O.

The Sodium-chloride Treatment of Tinea Tonsurans and Tinea Circinata

Charles E. Murphy, L. R. C. P., in a communication to the *Brit. Med. Jour.* (Sept. 25, 1897), gives the following method of treatment to be pursued in these affections:

All scabs having been removed by soaking with olive-oil, or poulticing, and, the hair cut short, if the head is affected, the diseased area is well rubbed with a saturated solution of common salt on a small piece of sponge. The physician should do this himself, once a day, if possible, and the relatives once a day. It is a clean and painless application, but, like so many seemingly simple processes, yields its best results when the whole treatment is carried out by the medical man himself. In each of the author's cases a microscopical examination was made before and after the treatment.

Out of twenty-five cases, the average duration of treatment was sixteen days, the longest duration seven weeks (this case was an adult who would not persist in the treatment), the most rapid case seven days. The younger the patient, the more easily this treatment seems to cure; the reason being that adults, especially women, have thicker hair, and object to much being cut away. B.

Eosinophilia in Psoriasis

In the *Ann. de Derm. et de Syphil.*, 1897, No. 2, Leredde publishes the result of his study of the blood in psoriasis from the point of view of eosinophilia. Thirteen patients were examined and about three eosinophiles were obtained in a hundred leucocytes. They did not seem to be influenced by either the age or intesity of the disease. One patient affected with chronic bronchitis showed none; another with universal psoriasis presented six eosinophiles in a hundred. Leredde concludes that a slight increase of eosinophiles exists in the circulation of certain psoriatic patients, but that this increase is not constant. S.

Chilblains

Dr. A. E. Wright states (*The Lancet*, No. 3831, p. 303) that from a close study of ten cases of chilblains, occurring in both adults and children, he concluded that the trouble could be referred chiefly to a lack of coagulability of the blood of the patients exposed to cold, and that, therefore, chilblains could be avoided, and even cured, by administering a remedy that would heighten the coagulability. For this purpose he gave calcium chloride, at the same time cautioning his patients to abstain from lessening the blood-coagulation by the ingestion of sour fruits, alcohol, or excessive amounts of fluids. Eight cases were completely cured as soon as a sufficient augmentation of coagulability had been achieved. In one of the remaining cases no good whatever resulted, probably owing to mal-adjustment of the dose. In the other, only a transient augmentation of the coagulability was obtained. As a rule the doses varied from 10 to 15 grn. for children (of about 11 years of age), and from 20 to 30 grn. for adults, given two or three times a day, the dose being usually reduced as the trouble progressed favorably. F.

OBSTETRICS AND GYNECOLOGY

Edward N. Liell, M.D., Herman B. Sheffield, M.D.,
H. P. DeForest, M.D., H. T. Hotchkiss, M.D.

Dysmenorrhea

The following formula is recommended in *The Twentieth Century Practice of Medicine* (Vol. VII, p. 587):

Antipyrini	10 gme.
Amm. Brom Potass. Brom	āā 5 gme.
Ex. Vibur. Prun. Fl.	20 gme.
Spir. Vin. Gall Syr. Cort. Auran	āā 40 gme.
Aq. Dest	90 gme.

Dose: Teaspoonful four or five times daily.

M.

New Method of Treating Puerperal Fever

Dr. Carossa, dissatisfied with the usual methods of treating the disease, recommends the following procedure (*Centralblatt f. d. ges. Therapie*, XV, 3):

He fills the uterus with absorbent gauze, rather loosely, by means of a hollow uterine sound, which latter is also left in the uterus. The sound is attached to a rubber tube, terminating in a funnel, and two to three tablespoonfuls of a 25-per-cent. alcohol solution are poured in. A harmless antiseptic may be added to the alcohol. The irrigations with the alcohol are repeated every hour, day and night; the gauze is renewed every second day. The rationale of the treatment the author explains as follows: The alcohol coming in direct contact with the lower uterine segment, destroys the pathogenic germs directly, while an upper uterine segment becomes disinfected through the evaporation of the alcohol. The author claims to have obtained good results from this treatment. M.

Primary Tuberculosis of the Breast during Pregnancy

E. P. Davis, at the Congress of Physicians and Surgeons (*Medical Week*, May 28), reported observing a case of this rare condition recently, the patient being a girl, aged 17, and seven months and a half advanced in an illegitimate pregnancy. Her family and personal history were negative. She was anemic and complained of severe pain in the right breast, where she had first noticed a swelling in the sixth month of pregnancy. No history of violence could be obtained. Examination showed an indurated mass in the lower quadrant of the breast, movable upon the subjacent parts and presenting no signs of acute inflammation. The axillary glands were not enlarged. A month later tubercle bacilli were discovered in fluid expressed from the breast. After consultation with Dr. W. W. Keen, operation was postponed until after delivery, which took place, aided by forceps, and was followed by satisfactory convalescence. The mother was not allowed to nurse the child, and six weeks after confinement the breast was amputated by Dr. Keen. Pathological examination showed that an adenoma of the breast had been the seat of tubercular infection, probably from the mouth of a person affected with the disease. Recovery was rapid. No signs of disease were found in the other breast, and post-mortem examination of the child, which died of marasmus, and of the placenta failed to show any tubercular infection. The process remained strictly localized, there being no glandular enlargement and no constitutional symptoms. In the discussion of Dr. Davis' paper, Dr. Hanks stated that he had seen such a case a year ago at the Woman's Hospital, which was supposed to be cancer. The breast was amputated and pronounced by the pathologist to be the seat of tubercular mastitis. Death ensued from septicemia within seven days. L.

Fibroids Complicating Pregnancy—Mental Influence in Supposed Pregnancy

At the Feb. 2 meeting of the New York Obstetrical Society, Dr. H. J. Boldt (*Am. Gyn. and Obstet. Jour.*), in presenting a specimen of fibroid complicating pregnancy, remarked that the woman had ceased menstruating in August last, the flow of blood reappearing some time in November. A diagnosis of myofibroma, complicated by myoma (pregnancy?) was made; he endeavored to stop the flow of blood but was unsuccessful. She aborted, and after she had recovered from the intense loss of blood, hysterectomy was performed. The author remarks, regarding this class of cases, that it should be the endeavor, if possible, to prevent abortion. While a number of cases will go on to termination—about 10 per cent.—in the remaining 90 per cent. of cases of pregnancy, if fibromata complicate such condition, abortion ensues in consequence of endometritis being present in the majority of cases. Boldt further states that the reason he did not wait longer in this particular case was because hemorrhages began to recur. He is absolutely, under all conditions and circumstances, opposed to the production of abortion because the woman has a fibroid, as it is certain that a majority of the cases, if they have not aborted before the fourth month, will go to term. The following history of a case of evident mental influence in supposed pregnancy, was also brought before the society. Patient, aged 38 years, had been married but nine months. Several gynecological operations had been performed on her, finally finishing with a vaginal hysterectomy two and one-half years ago, since which time she has been free from physical ailments. Soon after marriage she began to have symptoms of pregnancy, and having been informed before hysterectomy was performed what the consequences would be, she consulted a physician in her locality, who assured her she was pregnant. For the purpose of showing the influence of the mind over the physical condition, therefore, the case was reported, the patient declaring the following symptoms: Morning sickness, swelling of the breasts, shooting pains through these glands and enlargement of the abdomen were present, and, in addition, the mamma contained cholestrum. The patient evidently thought the operations had not been performed upon her, and she was happy in the assurance of her physician in the country that she was pregnant. L.

Peritvphlitis and Appendicitis in Their Relation to Obstetrics and Gynecology

Memdé, at the Congress of Physcians and Surgeons (*Medical Week*, May 28), called attention to five points in the pathology, diagnosis and treatment of appendicitis occurring during pregnancy and labor.

1. The possibility of the occurrence of appendicular inflammation, either as a new disease or as a recurrence of a previous attack, at any time during pregnancy or during labor and the puerperal state.

2. The induction of abortion or premature labor by acute appendicitis, in consequence of local irritation or through the fatal effect on the ovum of the hyperpyrexia.

3. The difficulty of the diagnosis of the true nature of the case, especially when the pain in the right iliac region is marked by normal labor-pains, or when the attack occurs after delivery and the high temperature may be mistaken for that of puerperal septic infection.

4. The necessity for prompt surgical interference, whether the attack occur during labor or the puerperal state, in order to avoid the danger of an intraperitoneal rupture of the abscess.

5. The danger of a greater mortality owing to postponement of operation in consequence of difficulty in diagnosis, or the risk of general infection.

If labor is in progress there should be even less delay than usual, since the uterine contractions may cause rupture of the abscess by traction. The difficulty of diagnosis when marked by septic puerperal symptoms should be borne in mind. With the pelvic organs healthy, there is no more difficulty in diagnosing appendicitis in the female than in the male, unless the appendix is unusually long and misplaced. Ordinarily in appendicitis, the pain, tenderness, and swelling are limited to the spot just above and within the crest of the right ilium, and only rarely can the exudate be perceived through the vagina, in which case it may be difficult to distinguish it from perisalpingitis, adherent pyosalpinx, or pelvic cellulitis. There is scarcely a decisive sign by which perisalpingo-oöphoritis and appendicitis may be differentiated, except the location of the original pain. In the latter affection, it is never in the pelvic cavity or close to the uterus, but may be in the right iliac fossa, at McBurney's point, in the epigastric region, the left iliac fossa, or over the whole abdomen. Vagino-abdominal palpation does not cause pain in appendicitis, unless salpingo-oöphoritis coexists. When the original exudate of an appendicular abscess has broken down, it is usually found limited to the normal size of the appendix. It may burrow upward or downward, or point in the median line, or through the right vaginal or anterior rectal wall. In these cases, its fetid odor and thin sero-purulent character may cause a suspicion of its origin. A pyosalpinx or pus-ovary adherent to the peritoneum in the right iliac region, or a small ovarian cyst with twisted pedicle may simulate appendicitis. The author has never been able to palpate the healthy appendix, but does not doubt that with very thin and relaxed abdominal walls this may be done, as we can often feel the normal Fallopian tube under favorable conditions. Diagnosis having been arrived at between appendicitis and perityphlitis, as against salpingo-oöphoritis, treatment should be conducted on the lines laid down for such affection. If in doubt, he prefers making the incision in the right semi-lunar line, since, if it proves an appendicitis, this is the shortest way to the seat of the disease; and if salpingo-oöphoritis, pyosalpinx or ovarian abscess, the diseased organ can quite as easily be removed as through a median incision.

[It has been my good fortune to palpate the normal appendix in three patients. In one of them abdominal section proved it to be the appendix. L.]

Treatment of Chloasma

The following formula is taken from the *Deut. med. Woch.*:

Chloral Hydrate	2 parts
Carbolic Acid	1 part
Tincture Iodine	1 part

Apply with a brush.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

A Blood-test for Diabetes

Dr. Bremer, of St. Louis (*Brit. Med. Jour.*, Sept. 11, 1897), in a communication to the International Medical Congress, Moscow, gave facts on a blood-test for diabetes. A drop of blood spread on a glass slide is heated in an oven till the temperature rises to from about 135° to 140°C. (within from six to ten minutes). The oven is allowed to cool and the preparation is stained for one and a half to two minutes in Congo red or methyl-blue, 1 per cent. (not methylene-blue); other aniline dyes may be used, but these are the best. Then rinse, and it will be found that non-diabetic blood has stained, diabetic blood remains unstained. Biabrick scarlet stains diabetic blood, but not non-diabetic blood. Control-preparations of normal blood must always be made. The temperature is the essential point.

B.

Friedlaender's Bacillus as the Cause of Angina

The bacteriological station for the examination of suspicious pharyngeal deposites (Rouen) gave Nicolle and Herbert (*Ann. d. l'Inst. Pasteur*, XI, 1, p. 67) the opportunity to cultivate Friedlaender's bacilli upon coagulated blood-serum from eight cases, in which this micro-organism was found six times in pure culture and twice mixed with diphtheria bacilli. Clinically, the authors saw Friedlaender's angina chiefly in the chronic, seldomer in the acute form. Upon the tonsils, or in their neighborhood, were found small mother-of-pearl or brownish, sharply defined deposits of 1 to 6 mm. in diameter, mostly isolated, more rarely confluent. The deposits were very difficult to detach, and required the curette for complete removal, whereby the bleeding mucosa was exposed. The separated membrane, which contained the Friedlaender bacilli embedded in fibrin, does not disintegrate in water, and, therefore, deserves the name of a pseudo-membrane. Aside from a rasping sensation in the throat, the benign affection causes no disturbance in man. If no bacteriological examination is made, it may give rise to confusion with follicular angina or with leptothrix mycosis of the pharnyx. The Friedlaender bacillus is easily recognized by its capsule and by Gram's stain, though, because of the presence of other bacteria in the pseudo-membrane, it is advisable to grow it on coagulated blood-serum, upon which it forms characteristic cultures. White mice inoculated with pure cultures of the Friedlaender bacillus died within from eighteen to sixty hours; their blood contained pure cultures of this microbe. When these bacilli were inoculated upon the vulval mucosa of rabbits a fibrinous exudate developed. Doves reacted to inoculation upon the pharyngeal mucous membrane.

Separation of Typhoid Bacillus and Bacillus Coli

Wallis Stoddart (*Jour. Path. and Bacter.*) gives a new method of separating the above-mentioned bacilli, with notes of some tests for the typhoid bacillus in pure culture. All the processes hitherto described consist of two stages—first, the suppression of the more delicate and abundant organism by unfavorable conditions of culture; and, secondly, the separation of the residual forms by planting out. Preliminary concentration of the polluted water is unnecessary. The sparcity of the typhoid bacillus compared with other forms, is the main difficulty. This will be better understood when it is mentioned that there may be only one typhoid colony among thousands, or more, of apparently similar colonies. He thinks the system is radically wrong, and that we should aim at making use of the vital powers of the one typhoid bacillus, so that it may approximate in numbers to the other forms. This method of concentration would render their subsequent detection much more easy. He first tried bibulous paper and porous porcelain, soaked in potato-extract, or both, and a certain degree of separation was effected, the typhoid bacillus apparently outstripping the colon bacillus in its growth and spread from the inoculated spot. This had the disadvantage of being an opaque medium, he therefore tried different strengths of agar gelatin—he prefers 0.5 per cent. agar and 5 per cent. gelatin—incubated at 35°C., and found that no special growth occurs, but that the organism spreads throughout the whole mass of the medium. At the end of twenty-four hours it will be found that two-thirds of the dish will be occupied by a circular opalescence, which later extends through the whole dish. Bacillus coli, on the other hand, under precisely similar conditions, affords the usual surface-plate of limited extent. If the inoculation is made from a mixture of both organisms, there results a central disc of colon bacilli, surrounded by an opalescent halo of typhoid. He experimented with seven different cultures of typhoid bacilli obtained from different sources, and found them identical, and differing essentially from all specimens of coli bacilli. He also employed the method by inoculation from typhoid stools in three cases, and obtained pure cultures of the typhoid bacillus. He then applied it to various samples of water and sewage, and found that, if the water used to dilute the broth in equal quantities contained both typhoid and coli bacilli, even if the latter were immensely superior in number, the result of twenty-four hours' incubation at 35°C. was invariably a culture, a droplet of which yielded pure typhoid by his method. He also found that nearly all waters contained organisms which resembled the coli bacillus, or the typhoid; and, further, that only one species and rarely more than two were obtained in agar gelatin from a single water; and, on inoculating a mixture of one of them with typhoid bacilli, the latter was entirely suppressed. B.

Formaldehyd as a Fixative for Nerve-tissues

Gudden in the *Neurologische Centralbl.*, Vol. XVI, No. 1, states that nerve-tissues which have been hardened in formaldehyd can be used with the Nissl staining methods. In order to use such material for the Weigert methods a preparatory placing in ½-per-cent. chromic acid for ten hours, at the room-temperature renders it suitable. J.

A Bacterium Living in Strong Spirit

V. H. Veley and Lilian Veley contribute the following interesting facts to *Nature*, July 1, 1897:

It is well known that the shipments of rum from Demerara, especially during the past year, have been "faulty," and very great pecuniary loss has resulted to the colony. Through the kindness of a friend and the courtesy of the excise authorities, we received certain samples direct from a bonded warehouse; we were informed that the spirit had been returned at 42-per-cent. over proof, equivalent to 74.6-per-cent. alcohol by weight; our determinations showed the assessment to be correct. On microscopical examination of a sediment at the bottom of the samples, using a magnification of 1,200 diameters, we found chains of small cocci; after the spirit had been kept for some days the cocci were seen to be surrounded with a gelatinous envelope, and after a further interval of time the cocci were found disseminated throughout the liquid, and were rapidly developing and multiplying. The micro-organism, adopting the classification of Zopf, belongs to the group Coccaceæ, and for the present, from our study of cultivations, we are inclined to regard it as a new species; we have already obtained several stages of its life-history, and hope shortly to be in a position to publish a fuller account of its development and the chemical changes which it produces. B.

Genital Bacteriology

Veillon and Hallé have published in the *Arch. de méd. expér.*, etc. (*Gaceta medica Catalana*, Aug. 15, 1897), a bacteriological study of the vulvo-vaginitis which affects children and of the vulvo-vaginal canal in a normal condition. A microscopic examination of the pus in twenty-seven cases of vulvitis revealed the presence of the gonococci twenty-five times. In a complete bacteriological examination practiced in twenty-one cases, the gonococcus was isolated seventeen times; five being in pure culture, and twelve were associated with the common microbe found in the vagina, i. e., the common pseudo-diphtheritic, Weeks' pseudo-diphtheritic, a non-pathogenic streptococcus and the Staphylococcus epidermidis albus. In the four cases of vulvitis without gonococci, they found, diversely associated the Streptococcus pyogenes, the Streptococcus non-pyogenes already mentioned, the Bacterium coli, the pseudo-diphtheritic and the Staphylococcus epidermidis albus, all of which may be also found in the normal vulvo-vaginal canal. In the seventeen cases in which gonococci were found, thirteen had vulvitis with a typical purulent discharge, and in the other four cases the discharge was very slight and scarcely purulent, without any inflammatory lesions.

These observations demonstrate that the vulvo-vaginitis of children is usually due to blennorrhea, notwithstanding the fact that the contagion is not always direct. A microscopical and bacteriological examination should always be made, even if there is but a slight discharge. Again, the presence in the vagina of microbes similar to Loeffler's should put us on our guard against making a hasty diagnosis of vaginal diphtheria. B.

The Etiology of Trichorrhexis Nodosa (Kaposi)

According to Stanislaus Markusfeld, in the *Centralbl. f. Bact.*, Bd. No. 6, p. 230, trichorrhexis nodosa is a bacterial disease. He claims to have gotten the organism in pure culture, and to have successfully inoculated it. This organism is not identical with Hodai's Bacillus multiformis trichorrhexidis, nor with Essen's bacillus. J.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D., DAVID M. STÄBLER, M.D.

Stypticin in Hemorrhages

Stypticin has been recently used in forty-nine cases of ovarian hemorrhages due to various causes, by Dr. Max Nassauer (*Therap. Woch.*, IV, pp. 793 and 827, Nos. 32 and 33). His reports show the following: In three cases of climatic hemorrhage its action was an ideal one. In twelve cases of tardy and faulty contraction of the uterus following abortion, its effects were had very rapidly, and in two cases of subinvolution it acted similarly, but it was observed to have almost no effect when fragments of the ovum were still present; hence, in such cases, curretting must be done previous to its use. In ten cases of secondary hemorrhage (due to reflex action) its action was particularly good, the response being very rapid; in fact, in these cases, it appeared to act almost as a specific. In six cases of uterine myomas stypticin was also very effective. It is not so useful in hemorrhages due to purely fungous endometritis, but is excellent in persistent hemorrhages after curetting. In menorrhagia or dysmenorrhea not due to any pathologico-anatomical condition, the remedy can be used with excellent results. It is, however, ineffective in purpura and hemophile.

Stypticin may be given in pills, pearls, and in solution. The dose given was 0.1 gme. per os, four or five times daily, and was unaccompanied by any disagreeable by-effect whatever.

Peronin Therapeutically

The action of peronin has recently been studied by Dr. Siegmund Nowak (*Therap. Woch.*, No. 21, 1897) in eighteen cases, comprising ten of pulmonary tuberculosis in the stage of infiltration and cavern-formation, four of chronic bronchitis and pulmonary emphysema, three of acute bronchitis, and one of capillary bronchitis. The result of these investigations showed that in all of these cases the cough, irrespective of the cause or complaint, became less frequent and intense, sleep being thereby rendered easier; it became drier, however, expectoration being rendered more difficult. By-effects, such as headache, lassitude, and drowsiness were never observed. At times patients complained of a burning sensation in the bronchi, and of copious perspiration. The writer found that peronin is best given in solution or in pill-form. Doses of 0.01 gme. were found to be too small at times, but as no by-effect occurs these may be increased to 0.05 gme. single, 0.1 and 0.15 gme. for a daily dose. It possesses an advantage in that it may be given for a long time, there being no tendency to forming a habit, as in the case of morphine.

Dr. Jakob Munk (*Aerzt. Centr. Anzeiger*, No. 22, 1897) has also experimented with peronin, and states, as a result of his investigations, that the remedy given to adults in doses of 0.02 gme. causes no untoward effects, indisposition, or drowsiness, but acts as an analgesic and checks cough. Doses of 0.04 gme. yield a quiet night's sleep, even in cases where morphine and codeine were inactive, and without any by-effects. It is easily borne by the most debilitated patients. The writer records the case of an epileptic girl who suffered from frequent attacks of frenzy, and on whom peronin had an immediately calmative effect. In all recent cases the writer employed peronin exclusively wherever morphine or codeine were indicated, and with uniformly good results. The dose of 0.02 gme. was repeated three times daily.

Fluid Extract Horse-chestnut Seed

The fluid extract is prepared from the seed of Æsculus hippocastanum, and Arbault (*Rev. de Thérap. méd.-chir.*, No. 5, 1896) believes he has found in this remedy a specific for the pains of hemorrhoids. In twenty-one cases in which it had been used, not once did it fail, and the attacks could even be cut short at their commencement, when it was taken as soon as the first symptoms showed themselves. The remedy appears to exert a direct, intense, vascular-contracting power on the venous circulation of the small pelvis. Its administration causes a mild feeling of warmth in the stomach, unaccompanied by pain, dizziness, or constipation. The only disagreeable symptoms noted were the re-establishment of the menses in two women ten days after this stoppage. In cases of excessive hemorrhage, this extract may be combined with fluid extract of hamamelis. F.

Naphthalan in Dermatology

Nouv. Rem. (No. 15, Aug. 8, 1897, p. 461) gives this: Naphthalan is obtained from a Caucasian tar of dark-brown color, dark yellow by transmitted light, of neutral reaction, almost odorless, and very easily spread out into a thin layer over the skin, though of a quite firm consistency and melting at 65° to 70° C. (138° F.). It does not mix with water or glycerin, but emulsifies with fat. It is soluble in ether, chloroform, and benzol, but not in alcohol. It keeps well for years. Its stains are washed off easily with water. No bacteria develop on it.

C. Pezzoli (*Ther. Woch.*, IV, 1897, No. 27, p. 677) employed it in ninety-two cases of different skin-affections (forty-two eczema, fifteen contagious impetigo, and ten of tinea tonsurans).

Used for a long period, it is yet harmless to the skin and general state of patients. It is superior to tar, in eczema, because it is indicated in every stage and form, and rapidly ameliorates the disease objectively and subjectively (itching, pain, burning, etc.). It causes no secondary troubles as do tar-preparations.

In itch, three applications cause disappearance of both parasite and accompanying eczema. The same parasiticide action obtains in its use for tinea tonsurans, and impetigo contagiosa. Its highest utility will be in the treatment of eczema, being indicated in all stages of that disease and acting promptly for their relief.

It also allays the pain of burns; it acts favorably on inflammation, on ulcers, and on rheumatic pains. H.

Guaiacol and Chloroform Subcutaneously

Colleville states (*Therap. Gaz.*, XXI, p. 612) that he has employed a solution of guaiacol and chloroform hypodermically in the proportion of six parts to ten. This was injected directly into a painful point in the dose of from fifteen to thirty drops, and proved itself peculiarly useful in the treatment of nerve-pains, such as sciatica. If as much as fifty minims were given, the injections are sometimes followed by induration, which, however, gradually disappears.

These injections are preferable to the morphine-injections, and are to be preferred to rubbings and frictions.

Phosphorus as a Stomachic in Chloro-anemia

Anorexia constitutes, as is well known, a frequent and serious obstacle to the success of the hygienic and therapeutic means applied in the treatment of chlorosis and anemia. It has been found, however, by Dr. A. Casati (*Sem. méd.*, XVII, p. 10), after trying many remedies, that phosphorus is an excellent stomachic, as it rapidly revives the appetite in chlorotics. He administered the remedy in the form of phosphorized oil, in capsules, each containing 0.001 gme. of phosphorus.

The patient takes at first one capsule per day, and increases the number by one capsule every two days, until five are taken daily; then the number is reduced by one capsule every two days until the use of the remedy is suspended. In this manner the appetite is most usually restored. If this is not had, the same treatment is renewed, after an interval of six days.

As far as the use of iron and arsenic is concerned, Dr. Casati prefers to exhibit them simultaneously, and in the following form, with which he has had the most successful results.

Iron and Potassium Tartrate......	4 gme.
Fowler's Solution.................	4 gme.
Distilled Water..................	12 gme.

Dose: 5 to 10 drops in a little wine, immediately before meals.

F.

Creolin After Abdominal Operations

There is one class of cases, says J. Malseed Bell (*Med. Rec.*, No. 1378, p. 493), presenting irritability of throat, nose, or bronchi, accompanied with anorexia, which forbids the exhibition of internal dosing, in which there is no treatment possible other than inhalations; in others, while internal remedies are fairly well borne, comfort is maintained and convalescence facilitated by an adjunct in the shape of an inhalation; in all cases of nervous susceptibility with laryngeal and bronchial affections, any treatment is aided materially and many a night-call prevented by the use of an inhalation.

In all such cases a charming remedy is found in creolin, ten or fifteen drops vaporized twice or even once during the night, on a stove-lid or on a tin-plate over an alcohol-lamp. But the field in which it is most highly valuable is in irritable conditions of the throat and lungs, existent with or occurring during the early convalescence of cases of abdominal section, hernia, and operations upon the scrotum—cases in which coughing, even slight, jeopardizes the safety of ligatures and stitches, and impairs, more or less, primary union. The following case illustrates the virtue of this agent in such conditions:

The patient under treatment had a distressing cough, but the severity of the abdominal symptoms demanded immediate attention, and therefore no time was taken to ameliorate it. An incision was made and an ulcerating appendix, three inches long, was removed. The cavity was drained and the patient put to bed, suffering with some shock. A hypodermic of strychnin nitrate, one-fortieth grain, developed some tetanic spasms, which, with the incessant cough, threatened the integrity of the wound, if not the life of the patient. By the second day the temperature had returned to normal, but the cough persisted, and with it an irritable stomach, that was a constant menace to convalescence. Creolin was vaporized in quantities of ten drops twice during the first day and twice during the night, and until convalescence was so far established that other means could be employed. The patient sat up on the sixteenth day, and on the twenty-first day was discharged.

The relief afforded by breathing an atmosphere at once moist and soothing is never more fully appreciated by the patient as well as the physician than in such a case as the one quoted. Not only does the creolin possess the virtue of relieving the patient, but its vapor in the room during the dressings tends to destroy the more or less pathogenic bacteria that must emanate from respiratory organs undergoing a pathological process. F.

Bismal Therapeutically

Bismal (Bismuth methylenedigallate) has been recently employed by Franck (*Bull. gén. de Thérap.*, II, p. 165) in the treatment of atonic ulcers of the leg, in burns, and in bed-sores, with very encouraging results. Upon powdering with pure bismal, the ulcers rapidly deterge, the secretions are considerably diminished, and the granulations form with greater vigor than upon the employment of dermatol and analogous remedies, the bismal unquestionably also exercising a siccative action on wounds and ulcers. For internal use, bismal may be prescribed in doses of 1 gme. each, inclosed in cachets, of which two to four daily are taken in gruel or broth. F.

Camphoric Acid in the Profuse Perspirations of Phthisis and Other Maladies

Camphoric acid, recommended as an antihydrotic by Fürbringer, has been employed for four years by R. Stockman (*Bull. gén. de Thérap.*, II, p. 161), who considers it to be nowise inferior in value to belladonna or atropin.

Before prescribing any treatment for the profuse perspirations of which phthisical patients complain, it is well to ascertain whether these sweats may not be due to the invalids living in rooms that are too warm or badly aired, and have acquired the fatal habit of covering themselves too warmly: with an improvement of hygienic conditions these sweats often disappear spontaneously and without medication. When the sweats persist, however, the author recommends that camphoric acid be given in a single large dose of 1.8 gme., or in two doses with a slight interval, two or three hours before retiring. He has several times given doses of 0.9 gme., repeated thrice daily; but the antihydrotic effect was much less accentuated than when the large single dose was given at the most suitable time. Camphoric acid is best given in closed cachets or gelatin capsules, or in powder form, since the alcoholic solution is too bitter.

Camphoric acid is but little soluble in water, and is but slowly absorbed in the intestinal tract; it is therefore advisable to administer it some time before the sweat is expected to set in. Its slow absorption is its only inconvenience, it being in this respect inferior to atropin or picrotoxin, which may also be prescribed subcutaneously. It is eliminated in the urine twelve hours after its ingestion.

As secondary, disagreeable phenomena, the author has only observed a slight gastric irritation, and in one case an erythema; but, according to several authorities it acts also upon the kidneys. At all events, Stockman considers camphoric acid as being almost nontoxic, having in this respect an advantage over belladonna and picrotoxin. F.

Pure Methyl Salicylate in Rheumatism Internally

The value of salicylic acid in the treatment of acute articular rheumatism, and even in other varieties of this affection, is now universally admitted. It is usually employed in the form of sodium salicylate, which is soluble and less irritating to the mucous membranes, this substance occupying the same position in respect of rheumatism as quinine sulphate in malaria.

It appears from researches carried out by Dr. Le Strat, under the direction of Dr. Sigalas, Professor Agrégé of Medical Physics at the Medical Faculty of Bordeaux that, while certain substances are not absorbed by the healthy skin, others, among which is methyl salicylate, readily pass into the organism, without any change in the skin.

The only serious drawback to the external use of methyl salicylate in private practice is its penetrating and persistent odor, which is extremely disagreeable to those who come in contact with a patient treated in this manner.

Dr. Gilbert Lasserre (*Med. Week*, V, p. 96), however, on the basis of an experience extending over four years, has come to the conclusion that equally good results may be obtained by ingestion of methyl salicylate as by the external application of this substance.

Methyl salicylate was long ago recommended for the treatment of rheumatism, but it has never been generally employed. Dujardin-Beaumetz and Egasse, Nothnagel and Rossbach have spoken very highly of the internal use of oil of wintergreen or gaultheria, which, as is well known, is nothing else than natural, impure methyl salicylate—instead of sodium salicylate. It is said to be very efficacious and never to give rise to circulatory or digestive disturbances.

Dr. Lasserre employs chemically pure methyl salicylate, prepared by synthesis. On two occasions, when he did not obtain the desired effect from the use of the drug, he found on inquiry that the chemist had delivered oil of wintergreen instead.

He has employed methyl salicylate in about forty cases of acute and subacute articular rheumatism in doses of ½ c.c., or about 50 ctg. in the twenty-four hours, repeated a second time. A third dose has but rarely been required for bringing about recovery, or at any rate allaying the pain. His favorite mixture is the following:

Methyl Salicylate, C.P...	1 c.c.
Brandy..........................	10 gme.
Simple Syrup....................	100 gme.
Distilled Water...	100 gme.

To be taken. a tablespoonful at a time, within forty-eight hours.

This method of administration is free from pain and the odor is not offensive.

Oil of wintergreen, according to Mallez, is a diuretic with an elective action on the kidney. It is rapidly eliminated by the renal apparatus, its presence in the urine having been detected within less than two hours after ingestion. Methyl salicylate is also readily eliminated by the skin.

Dr. Lasserre has also obtained very good results from the use of chemically pure methyl salicylate in two characteristic cases of gout, but experiments on a larger scale are necessary before passing a definite judgment on its action in this affection. F.

Iodovasogen Internally

The use of iodovasogen internally is highly recommended by Hugo Kleist (*Aerzt. Rundsch.*, VII, p. 151), who states that he has given from eight to twelve drops of a 6-per-cent. solution half an hour after meals during the first week, and later, fasting, with several spoonfuls of water, with excellent results. He was led to employ it in place of potassium iodide, which is frequently not well borne, and the results obtained were as follows: The cardiac affections, asthma, orthopnea, tachycardia, alternating with arhythm, that sooner or later follow arterial sclerosis and even intact valves, regularly disappear after a two weeks' use of iodovasogen, and the valvular murmur, the frequent aortal stenosis, and mitral insufficiency, were gradually reduced, without, however, entirely disappearing. The quantity of albumin in the urine of chronic nephritis due to arterial sclerosis was also regularly reduced, at times even disappeared, but returned upon suspending the remedy for a long time, particularly after severe exertion; but it was always kept at a minimum by means of iodovasogen, the average being ¼ to ⅓ per 1000.

In view of these results, therefore, the writer has prescribed iodovasogen in cases of doubtful or decided secondary or tertiary syphilis, particularly as the remedy had also been found to be well borne in every case, to excite the appetite while furthering digestion, and to be accompanied by none of the disturbing by-effects that usually accompany the administration of potassium iodide. F.

Sozoiodolates in Ophthalmology

According to B. Bjelilowsky (*La Sem. méd.*, XVII, p. 38), the sozoiodolates are capable of rendering extremely valuable services in ocular troubles. He has used them extensively for some time, and obtained excellent results from their use.

In simple acute conjunctivitis the author, after cocainization, makes instillations of solutions of zinc sozoiodolate, 6 per cent. or of sodium sozoiodolate 10 per cent., and applying, besides, compresses dipped in a solution containing 1 per cent. of zinc sozoiodolate and 1 to 2 per cent, of boric acid, obtaining, by these means, a cure within six to eight days. The same treatment yields equally good results in chronic conjunctivitis.

In purulent ophthalmia of blennorrhagic origin, Dr. B. has recourse to irrigations, and with success, of the conjunctival culs-de-sac with a 4-per-cent. mercury sozoiodolate, and of the applications of cold compresses of the same solution.

In phlyctenular conjunctivitis accompanied with intense vascular injection, the author first instills cocain and atropin, then a solution of the zinc, 2 to 4, or 6 per cent., or of the mercury, 1 to 2 per cent., sozoiodolate. When the phlyctenæ are particularly voluminous, he cauterizes them after cocainizing with a 5- to 10-per-cent. mercury sozoiodolate solution, applied by means of a small cotton tampon. By this means he has obtained the rapid disappearance of inflammatory symptoms and pain, as well as a notable diminution of the duration of the affection.

In trachoma, after applying cocain to the conjunctiva, and then everting the eye-lid, he crushes the granulations with the nail of the index finger or thumb of the right hand, then rubs the mucous membrane with zinc sozoiodolate in powder, and prescribes instillations of boric-acid solutions containing 4 per cent. of cocain. The following day he removes the false membrane that has formed on the conjunctiva, by means of irrigations with warm water, and instills either a 6- to 10-per-cent. solution of zinc sozoiodolate, or a 2-per-cent. solution of mercury sozoiodolate. In about three to four days, he repeats the treatment, and under this treatment, the trachoma is generally cured in three weeks.

Dr. Bjélilowsky also treats dacryocystitis by washing the lachrymal culs-de-sac, after incision and dilation, with a 1- to 2-per-cent. zinc-sozoiodolate solution, and also successfully treats parenchymatous keratitis, hypopyon, and diphtheritic conjunctivitis by means of sub-conjunctival injections of 5-per-cent. mercury-sozoiodolate solutions. These injections, which are made to precede and to follow instillations of 5-per-cent. cocain solutions, appeared to exert a more powerfully curative effect than sub-conjunctival injections of corrosive sublimate, while being, at the same time, less painful than the latter. F.

Ergotin in Hemoptysis

In the treatment of hemoptysis, Dr. Capitan (*Berl. klin. Woch.*, XXXIV, p. 130) employs, besides other means, subcutaneous, or, better, intramuscular injections of the following solution:

Ergotin-Yoon	5 gme.
Morphin Muriate	0.04 gme.
Antipyrin	1.5 gme.
Spartein Sulphate	0.2 gme.
Atropin Sulphate	0.003 gme.
Distilled Water, to make	10 c. c.

Injections made with a Pravaz's syringe are made every half-hour, until four or five have been made; in grave cases, every quarter-hour. If the patient is able to swallow, a tablespoonful every hour or half-hour, of the following mixture is given:

Ergotin Bonjean	2 gme.
Gallic Acid	2 gme.
Syrup Turpentine	0.5 gme.
Water, to make	120 gme.

Cupping, ice-, or hot-water compresses should also be employed when possible, and, according to indications, opium or morphine, and ipecac or tartar emetic, if necessary.

Characteristics, Stability, etc., of Hypodermatic Solutions of Iodoform

The following are the conclusions arrived at by Dinkler (*Nouv. Rem.*, XII, p. 715), as the result of his investigations into the stability, resorption, phenomena of intoxication, and irritation, caused by the various iodoform solutions, ordinarily employed subcutaneously:

1. Five-per-cent. solution in expressed oil of almonds.—It is easily decomposed by light, and in consequence of the crystallization of the iodoform beneath the skin, causes irritation; this solution is rapidly absorbed, and easily gives rise to toxic phenomena. It is advisable to give half the dose given usually (0.1 gme.)

2. Five-per-cent. trituration with paraffin.—It is easily decomposable, and, therefore, only freshly prepared solutions should be used. The author has observed neither intoxicating nor irritating symptoms with this solution.

3. Five-per-cent. trituration with glycerin.—The solution is stable; but the resorption is slow, the division of the iodoform beneath the skin is not uniform, and the injections are painful.

4. Five-per-cent. trituration with finely powdered wheat-starch.—This is a desirable preparation. Kept in tightly closed bottles, protected from light, it keeps without alteration for from five to eight days, the iodoform remaining finely suspended through the mass. The injections do not provoke the least irritation, the resorption takes place slowly and uniformly, and is complete in three days. F.

Sedative Enemata in Painful Affections of the Posterior Urethra

In cases of very painful urethro-cystitis with tenesmus and spasm of the internal sphincter, as well as in cases of acute prostatitis and epididymitis, Dr. P. Scharff, of Stettin (*Med. Week*, V, p. 132), has found that small morphine or belladonna enemata exert a more rapid and more powerful action than the ordinary sedative suppositories in common use.

For this purpose he prescribes one of the following mixtures:

Morphine Hydrochlorate	0.3 gme.
Atropin Sulphate	0.01 gme.
Distilled Water	100 gme.

For external use.

Extract of Opium	1.5 gme.
Extract of Belladonna	0.5 gme.
Distilled Water	100 gme.

For external use.

Five gme. (one teaspoonful) are injected into the rectum, and the analgesic action of the enema begins to manifest itself within from ten to fifteen minutes. In cases in which the pain is associated with fever, Dr. Scharff injects into the rectum, as often as three times a day, if necessary, 5 gme. of the following solution:

Cocain Hydrochlorate	1 gme.
Antipyrin	10 gme.
Sodium Salicylate	10 gme.
Distilled Water	200 gme.

For external use.

F.

REVIEWS

Transactions of the American Climatological Association for the Year 1897. Volume XIII. Philadelphia: Printed for the Association. 1897.

This is a very handsome and praiseworthy volume for a society of 121 members to be at the expense of publishing. Its contents no less than its appearance reflect great credit on the members, and particularly on the secretary for his conscientious and careful editing. It contains twenty-two well-written articles that show great pains on the part of most of the authors in gathering and arranging their facts. The presidential address of Dr. E. Fletcher Ingalls, of Chicago, is on the Antiseptic Treatment and the Limitation of Climatic Treatment of Pulmonary Tuberculosis. Dr. Guy Hinsdale, of Philadelphia, the secretary, has a paper on the Treatment of Tuberculosis by the Antitubercular Serum. He reports the history of a case of his own in which this treatment was tried with marked success. He intends to keep track of the case and report further upon it at the next meeting of the association. The serum used was prepared especially for his use under the direction of Professor Joseph McFarland in the biological laboratory of the H. K. Mulford Company. The paper was discussed by Dr. E. A. De Schweinitz, of the U. S. Biochemical Laboratory, at Washington. Most of the papers presented at the annual meeting and published in this volume are on subjects bearing directly on climatology, but a few were upon general medicine, and would have appeared better in one of the sessions of the Medical Congress that met at Philadelphia at the same time.

The Origin of Disease; Especially of Disease Resulting from Intrinsic as Opposed to Extrinsic Causes, with Chapters on Diagnosis, Prognosis, and Treatment. By Arthur V. Meigs, M.D., Physician to the Pennsylvania Hospital. With 137 original illustrations. Philadelphia, Pa.: J. B. Lippincott Company. 1897.

This exceedingly suggestive work is sure to be appreciated by all who take an interest in medical generalization. The author undertakes to look beyond and beneath the mass of pathological facts which we have long been accumulating and tries to find their connection with each other and the causes that are at work producing them. We have no other work just like this in scope and character in our language, so that it is impossible to draw comparisons or point out preferences. The author's aim cannot be better given than in his own words, which we copy from his preface. He says: "Much of the progress of medicine in the past fifty years has been due to specialism. Well-qualified men have devoted themselves to restricted fields, and important discoveries have been made that would not have been possible had they extended their labors more widely. The advantages of specialism are patent; but it is certain that a wide divergence of knowledge also results from it, and that facts that belong together are often observed by persons whose lines of research lead them so far apart that for a long time the conclusion remains undiscovered. There is great need for something to counterbalance this inevitable evil result, and to bring together the facts which isolated are useless. The relation of clinical medicine with pathology is obvious, and there can be no doubt that they are separated to the disadvantage of both. Specialism, therefore, has gone sufficiently far, if not already too far, in medicine, and it is time that something be done to connect the various disjointed threads of knowledge, the true value of which can never be known until they are woven into a complete whole. Impressed by the separation of clinical medicine from pathology, I have endeavored to bring them nearer together, and my book is the result of that effort." Some of the author's conclusions are very plausible, and it is quite possible that many of them will stand the test of time and take their places among established things. To enter into any discussion of them in this review would take more space than is at our disposal. Whoever purchases and studies its contents will be well repaid for his time and expense.

A Text-book of Special Pathological Anatomy.—By Ernst Ziegler, Professor of Pathology in the University of Freiburg. Translated and edited from the eighth German edition by Donald MacAlister, M.A., M.D., Linacre Lecturer of Physic and Tutor of St. John's College, Cambridge, and Henry W. Cattell, M.A., M.D., Demonstrator of Morbid Anatomy in the University of Pennsylvania. Sections IX—XV. The Macmillan Company, 66 Fifth avenue, New York. 1897. Price $4.

The volume before us is the second of a series on Pathological Anatomy that bids fair to become one of the most complete, if not in fact the most complete, work on the subject in the English language. It begins with Chapter LVIII; its first illustration is Fig. 309, and its seven included sections treat, respectively, of the Alimentary Tract, The Liver and Pancreas, The Respiratory System, The Urinary Organs, The Genital System, The Eye and The Ear. There are, in all, sixty-three chapters, each dealing with a different phase of the general subject of its section, and these are illustrated by 253 well-drawn figures, some of them being colored. Every subject is followed by a large number of references that constitute a complete guide to the literature upon it, and that enable those who wish for more information or for confirmation of that before them to follow up the matter to completion. No medical library is complete without a work on this subject, and we know of none better suited to the requirements of the general practitioner or the student of pathology than this. Its profuseness of illustrations fits it particularly for those who have not the advantages of the large amount of material that can be commanded by a metropolitan laboratory. The paper, type, and binding are first-class in every respect.

A Text-book of the Practice of Medicine.—By James M. Anders, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia; Attending Physician to the Medico-Chirurgical and Samaritan Hospitals, Philadelphia, etc. Complete in one handsome octavo volume of about 1300 pages. Fully illustrated. Philadelphia, Pa.: W. B. Saunders, 1897. Prices: Cloth, $5.50 net; Sheep or half-morocco, $6.50 net.

Never in the history of medicine was it so necessary for physicians who wish to keep pace with the progress of medical science to replenish their stock of books bearing upon practice as now. Within a decade a veritable revolution has occurred in the classification of diseases, in methods of diagnosis, in nomenclature, in treatment, etc. The volumes on the Practice of Medicine that were considered reliable and valuable ten years ago are now worse than useless in many directions, because they are positively misleading. A comparison of the contents of this new work of Prof. Anders with that of any author on the same subject published prior to 1887, makes a most startling exhibit. Of course, there still remain very many features that are the same, but in a considerable number of directions there is scarcely one in common. We know of no recent author who has as effectively succeeded in bringing the new facts and ideas together, weaving them with the substantial realities of the old, in better form. The concise character of the text, the clearness with which its ideas are expressed, the ingenious arrangement of its data, the completeness of its detail, the order of sequence of its topics and the whole general appearance of the volume tell of careful, conscientious work done by him. His tables for aiding in differential diagnosis, his association of clinical symptoms with the morbid lesions that accompany them, his tested therapeutic formulæ, his appropriate illustrations, his bacteriology and his modern orthography and terminology have made of it a fully up-to-date, handy text-book for the general practitioner.

◆

At the semi-annual meeting of the Hartford County Medical Association held in Hartford, Conn., on October 20, an interesting and valuable report was read by a committee appointed at a preceding meeting to consider the advisability of establishing a certified milk-farm in their county. The report pointed out the pressing need of pure milk for the use of the sick, the dangers of infection from impure milk, the great care needed to keep this article pure and clean, the difficulty of getting dairymen to understand why they should be so scrupulously careful, and the large amount of extra work that such care entails. The committee thought that it would not be possible to control the milk-supply of their region by legal enactment. Their experience with laws on tuberculosis gave them but little hope in that direction. The plan that commended itself most to their judgment was one of medical supervision. The report, as given by the *Courant*, goes on to say that "the plan of certified milk includes that a commission of physicians shall be appointed who shall endeavor to bring to the city a supply of pure milk. That approved and trustworthy dairymen, possessing honor, financial ability and dairy facilities, shall be induced, by reason of promised medical support and the increased price of their milk, to conduct their dairies, collect and handle their products, in conformity with a code of requirements made by the medical commission and imposed by them in due legal form. The commission shall carry on its work without pecuniary compensation. Their duties shall be to establish correct clinical standards of purity for cow's milk, to be responsible for a periodical and personal inspection of the dairy or dairies under their patronage, and to provide for expert examinations of the dairy stock by a competent and approved veterinarian. The milk produced shall be subjected to chemical analysis and to bacteriological tests. The expense of all examinations should be defrayed by the dairyman, since he is the only party gaining a pecuniary advantage. The milk thus produced should be known as certified milk, should be sealed in separate quart containers and bear the name of the producer, together with the date of milking. This plan was submitted by your committee to two representative dairymen of this city, and it met with their hearty approval."

CORRESPONDENCE

Dr. Paquin Defends Himself

To the Editor of the A. M.-S. BULLETIN:

I have been advised that marked copies of the St. Louis *Republic*, of Oct. 10, in which a dastardly attack on me appears, have been sent to the medical press of this country.

I only ask fair play in this matter. While I have no desire to try the case outside of the courts, I respectfully beg your favorable consideration of the enclosed reply. The attack was made when it was known that I was absent from the city; it was done at the instance of a violent but cowardly enemy, whose grievance is the supposed loss of a coveted fortune at the expense of the sick, by a refusal on my part to countenance his nefarious insults and schemes involving the honor of the medical profession. To defeat him, I sacrificed every penny I had, or secured from friends. His purpose is to ruin my name and reputation, and on the wreck establish himself. The *Republic's* retraction of the libel shows the absolute fallacy of the charges. Yours truly,

PAUL PAQUIN.

The Woodbridge Treatment

To the Editor of the A. M.-S. BULLETIN:

Dear Sir:—So much is talked about aborting typhoid fever of late that I for one would be much benefited by a discussion of the latest methods and results attained. Is the Woodbridge treatment used so that we can always know we are treating typhoid fever, assuming that it does produce that much-vaunted "abortion"? Do the advocates of the treatment have no deaths from typhoid? If this is a new thing as true as some say, the facts ought to be known; and any other panaceas for that disease should be held up to light.

J. C. McGAHEY, M.D.,
Ft. Yates, N. D.

Will our readers kindly give us their experience with the Woodbridge treatment?—[ED.]

◆

The Elliot Hospital, of Manchester, N. H., has not of late received sufficient support in the way of donations from the community, and now its trustees propose to make it a paying institution by charging a small fee from every patient.

Homeopathists are now trying to find out why life-insurance companies discriminate against them in appointing medical examiners. They have discovered that it is an extremely rare thing for one of them to get such an appointment. They claim that patrons of their system furnish about two and a half times as many insurance-cases per physician as regulars do.

A professor in a Kansas City medical college is under charges before the county society for inserting an advertisement in a daily paper published over 200 miles from his home. The Kansas City *Journal* says that the advertisement in question appears between an announcement of a favorite heating-stove and the notice of a sale of blooded swine. The *Journal* makes merry over the affair and heads the report, "A Doctor's Awful Offense. Outrages His Fellow Physicians by Placing an Advertisement in a Newspaper." In the text it says: "The ethics of the profession prevent any regular physician from advertising himself and his skill in newspapers, and this ancient portion of the ethics is one the M.D.'s hug closely to their breasts."

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EDITOR'S NOTES

Those who subscribe now to the BULLETIN for 1898 will receive the journal for the remainder of the current year free.

Sanarelli's experiments at Montevideo, with his Bacillus icteroides, seem to have thrown the antivivisectionists into a spasm of horror. After wasting all English adjectives of the superlative degree descriptive of detestation upon ordinary vivisectors, they are now confronted with an inference concerning the work of the South-American, to describe which beggars their vocabulary. Dr. Leffingwell, their high priest, comes out in a long letter in the Boston *Transcript* of Oct. 16, in which he tries to give vent to his feelings on the matter. Here are a few of his choice sentences, giving his ideas concerning Dr. Sanarelli. "If anything could add to the supreme horror belonging to such a crime, it is that disguise as a physician under which this scientific murderer did his work * * the most cowardly assassination that the imagination can conceive. * * * For myself, I have no language at command sufficiently strong to phrase my opinion of a man who, in the garb of a physician, could be guilty of such a crime." It is not at all unlikely that if Dr. Sanarelli should happen to stray into a camp of antis when out for an excursion in the wilds of Uruguay, they might seek to roast him in a literal, as well as a metaphorical sense. All that Dr. Leffingwell has to base his assumption upon is the statement made by Sanarelli in his paper, describing the results obtained from experiments on five human subjects, not with the Bacillus icteroides, but with its toxin. No particulars are given regarding the outcome, but it was confirmatory of his results. The same train of symptoms followed its administration to them as to animals. There is no hint of fatal consequences. There is nothing to show whether or not they were condemned murderers, or pauper patients. There is no evidence to show that it was not done by their own free choice. The charge of crime in the case is wholly suppositional.

One of the strange perversities of human nature is the way the ignorant public treat the medical man. If he seeks the kind of information necessary to cure them, they object, and if he does not cure them they also object. For generations they would not permit of dissection, yet they demanded ability in their medical men, that could only come by dissecting. Large numbers of them now seek to obstruct the progress of medical science by similar obstructive methods. They all want to be cured, and condemn us when we do not cure them, yet they will persist in hindering our gaining the knowledge that would enable us to cure them. To the shame of our profession, there is occasionally a member of our ranks who, pandering to the whims of the sentimental and misguided, gives them courage in their evil ways and strengthens them in their fight. Sentiment knows no logic, denies the superiority of common sense and scoffs at reason. We see illustrations of this in the strange attitudes of the zoophilists. In one breath they will tell us that vivisection teaches us nothing of value, and in the next they will fight it because it does give such knowledge. If Sanarelli has found no new toxin and no dangerous bacillus, what great harm could his injections do to either animals or men? If harm comes to the victims it is proof that he has made a discovery of great importance to mankind. Henceforth we shall know of its presence and danger. If the worst charged against him is true, then it follows that he has discovered the germ of yellow fever and advanced human knowledge far enough to save hundreds of precious lives, at the expense of five paupers. We would by no means claim that paupers' lives should be sacrificed without their consent, even upon so sacred an altar, but we do hold that these particular paupers never could have been of greater service to their fellow men. They died as an atonement for human ignorance, and to bring light and joy into the world. Had such a sacrifice been voluntary on their part, it would have been sublimely heroic.

On the opening of the new year the United States is promised a new journal that is sure to be of great benefit to American medical men. A number of the leading physiologists of the country have combined to edit an *American Journal of Physiology* that will be published in Boston at $5 per year. Dr. W. T. Porter, of 688 Boylston street, Boston, Mass., is secretary of the Editorial Committee. The announcement of the new venture says: "It is not to be supposed that a journal devoted solely to the publication of original researches in physiology will ever do more than pay for its paper and printing, and it is probable that some years must pass before the new enterprise will cease to be a financial burden on a small number of investigators. Yet the need of such a publication is undoubted. The aid of all friends of learning is asked until the *Journal* shall be established on a self-supporting basis."

PUBLISHERS' DEPARTMENT

A NEW CENTRIFUGE

There has recently been perfected a new centrifugal machine for the rapid examination of urine, blood, sputum, milk, water, etc. The fluids are contained in glass tubes which are rotated horizontally by means of a set of hardened bronze gears having spirally cut teeth. The speeds required vary from 2000 to 12000 per minute, hence the spirally cut teeth are a great advantage, as they very materially reduce the friction and noise generated by the rapid rotation and thus increase the speed attainable. Three teeth always come in contact at once in a shearing manner, so as to prevent all back-lash, etc. The gearing and axles are contained in a circular metal case 4 inches in diameter and 1 inch thick. In use the instrument is clamped to the table by a screw-clamp.

A neat manual of "Centrifugal Analysis," minutely describing the various methods employed in the examination of blood, urine, sputum, milk, water, etc., is sent free upon request by Bausch & Lomb Optical Co., Rochester, N. Y.

"GRIP"

C. A. Bryce, A.M., M.D., Richmond, Va., editor of *The Southern Clinic*, in writing upon the above subject, during an epidemic of la grippe, said:

"The fatalities from pneumonia, meningitis, and other complications have been fewer, showing plainly that we are gradually gaining an immunity from this zymotic invader. With each succeeding visitation of this trouble we have found it more and more necessary to watch out for the disease in disguise, and to treat these abnormal manifestations; consequently we have relied upon mild nervous sedatives, anodynes, and heart-sustainers, rather than upon any specific line of treatment. Most cases will improve by being made to rest in bed and encourage action of skin and kidneys, with possibly minute doses of blue pill and quinine or calomel and salol. We have found much benefit from the use of antikamnia and salol in the stage of pyrexia and muscular painfulness, and later on, when there was fever and bronchial cough and expectoration, from antikamnia and codeine. Throughout the attack and after its intensity is over, the patient will require nervous and vascular tonics and reconstructives for some time."

CAMPHO-PHÉNIQUE

A prominent St. Louis physician writes the Phénique Chemical Company as follows:

"It affords me great pleasure to state that I have used Campo-Phénique, in its liquid and powdered form, very extensively, and it has given me more satisfaction than any other remedy, in all cases of wounds, ulcers, and carbuncles."

TAKA-DIASTASE IN DYSPEPSIA

For many years we have been looking for a diastase more potent than that found in the malt extracts. It remained for Mr. Takamine, a Japanese chemist, to discover one of remarkable amylolytic power, taka-diastase.

Dr. George Tucker Harrison, of New York, says that we may prescribe this remedy in such cases with confidence that the relief will be decided. Dr. Harrison has used this new product in quite a large number of cases with uniformly good results. The first case he used it in was that of a lady who had been for a long time a chronic dyspeptic. She had been treated in various ways; by dieting, pepsin, pancreatic extracts, nux vomica, with ox-gall, etc., but none of these methods of treatment gave her any appreciable relief, whereas the result from the use of taka-diastase was prompt and satisfactory. The flatulence, eructations, constipation and general debility disappeared.—*Mass. Med. Journal.*

UNGUENTINE

Of the 300 public institutions, such as asylums, dispensaries, hospitals, homes, and infirmaries in New York, 106 are using unguentine daily. Its general employment in such institutions certainly speaks well for the merit of this well-known ointment and dressing.

A NEW INVENTION

The Axion Pneumatic Pad manufactured by the G. V. House Manufacturing Company, of New York, is the latest thing in the truss line. This is an air-pad, entirely under the control of the physician. He can empty or fill it at any time, thus rendering it hard or soft to any degree that the necessities of the case may require. The pad is simply constructed, made in different sizes and shapes, and can be regulated and adjusted without removing it from the truss or removing the truss from the body of the patient. It is claimed that this pad will keep in shape and consistency longer than a water-pad, is quite as comfortable, with the additional advantage of perfect adjustability.

NEWS

The Health-authorities of Atlanta, Ga., have been disinfecting all passenger-cars that enter that city, from places where there is yellow fever, with fumigations of formaldehyd gas.

The Vermont Medical Association held its eighty-fourth annual convention at St. Albans, on October 15. There was a good turn-ont, and the doctors enjoyed the occasion. The new president is Dr. Lyman Rogers, of Bennington. Dr. William D. Huntington, of Rochester, Vt., is secretary.

A Chicago daily paper lately created a sensation by attacking Dr. W. A. Pusey for exhibiting a leper at a meeting of the Chicago Medical Society for the purpose of illustrating his paper on leprosy. The doctor denied the danger and said it would be almost impossible for any person in Chicago to take the disease.

A Chicago boy who threw a bucket of water on a shopmate during a quarrel, has been offered the alternative, by the Judge before whom he was summoned for the offense, of giving up grafts of his skin to his injured mate or going to jail pending the results of the injury. If the grafts take, the boy's life is expected to be saved, but should he die, the water-thrower must be tried for murder.

Medical colleges in the State of Pennsylvania must now file a bond of $1,000 in the Court of Common Pleas as a guarantee that they will dis sect no human bodies except those that come to them through the regularly appointed legal channels. This bond is forfeited if they are discovered using any other bodies. The University of Pennsylvania has already complied with the law, and the other colleges of the State will soon do the same.

The California State Board of Medical Examiners is preparing to wage a warfare of extermination against quacks. They have found a number of men practicing within their State who have not even a bogus diploma, and yet they sign themself M.D.s. The penalty for this offense, according to the San Francisco *Post*, is a fine of not less than $50 nor more than $500, or imprisonment for not less than thirty days nor more than one year in the county jail.

The National Association of Colored Physicians met in Nashville, Tenn., on October 15 to 17. It now registers about two-thirds of all the colored physicians of the South, although it was only organized two years ago in Atlanta, Ga. There was present a goodly number of colored women doctors, and the colored pharmacists and dentists of the South joined in with them. The president of the Association is Dr. R. F. Boyd, A.M., M.D., D.D.S.

The Committee on Hygiene of the Philadelphia Board of Education believes the plan of daily inspection of school-children for contagious diseases is impractical. They hold that it would disturb the discipline of the school, annoy parents, create a panicky condition in the community, consume daily nearly two hours of the children's time, lack even theoretical value at such times as no such diseases were around, and result in the final drifting of the post of medical inspector into a mere political appointment costing the community a large amount of money.

A branch of the Paris "Maternité Lion" has lately been opened in New York City by the founder, M. Alexandre Lion. There are now eighteen baby incubators put up for the use of babies that have come into the world prematurely and for other babies of immature size and vitality. The little ones are nested in cotton under glass at a steadily regulated temperature and in aseptic conditions. When M. Lion returns to France, the institute will be left in charge of Dr. Sauvalia. It is open for all feeble and premature babies, whether their parents are poor or rich. The curious who wish to enter and see the babies will pay an admission, and this, with what they receive from well-to-do parents whose babies they receive, will, it is believed, pay enough to keep the institute afloat. So at least the daily papers have reported.

The Tri-State Medical Society of Georgia, Alabama, and Tennessee had a very successful meeting in Nashville, Tenn., October 12 to 14. Governor R. L. Taylor, in bidding them welcome to his State, had the following pleasant words to say concerning our profession: "I believe in the doctor. I think the greatest hero is the doctor who looks death in the face every day. The grandest men are the doctors who rush into epidemics and grapple fearlessly with dread disease." The following resolution was adopted by a two-thirds majority after a very lively debate. It was presented by Dr. C. N. Drake, of Atlanta: "Resolved, That the recent outburst of yellow fever in the South and the numerous conflicting State and municipal quarantine regulations emphasize the great need of national quarantine laws, which are uniform and protective, and Resolved, That the Tri-State Medical Association, in convention assembled, urge upon the members of Congress the need of laws governing quarantine in the development of cholera, fever, smallpox, and the plague."

The American Public Health Association held its twenty-fifth annual meeting at Philadelphia, October 26 to 28. The question of a national department of public health came in for a good share of attention. Dr. Gihon and Dr. Ballhache had a wordy war on the floor of the convention over the fate of a resolution that had been presented to the association last year at Buffalo. Dr. Ballhache favors the enlarging of the Marine-Hospital service so as to make it become a national department of health, and Dr. Gihon is opposed to the scheme. Yellow fever took up a large part of the time of the meetings. The president and secretary of the Supreme Board of Health of Mexico were present, and the former read a paper on "The Study of Yellow Fever from a Medico-geographical Point of View." The Committee on Sanitation made a report on House Drainage, Plumbing, and Ventilation. Dr. Leal read a paper on the same subject. Dr. Abbot, of Philadelphia, objected to some of the points in this paper, and contended that there is no evidence that defective plumbing stands in any causal relation to disease. He further added that workers in sewers, employés of drainage-fields, and those around glue-factories enjoy as good health as the community at large. Plumbing so defective as to permit leakage of liquid or solid matter into a house would, of course, be a carrier of disease, but the mere admission of sewer-gas could have no such results. The president in his address recommended a government commission on yellow fever, summing up the gains of sanitary science of the past year and gave a history of the association and its work. A very valuable report was made by Dr. Montizambert, General Superintendent of Quarantine for Canada, on steamboat and ship sanitation.

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EDITORIAL

THE FUNCTION OF THE EXPERT

THE present dominant opinion regarding the function of the expert, in trials involving abstruse or technical subjects, seems to us to be founded on sentiment rather than intelligent judgment. Judges, jurors, and public all seem to be swayed by that ancient anti-scientific feeling that makes men take on authority conclusions they dare not trust to the decision of their own judgments. There is a very general human inability to discriminate between matters of fact and matters of reason. These two are constantly being confounded by the majority of people, particularly in such subjects as transcend their ability or go beyond the scope of their training. If experts were only called upon to settle points of fact there would be but little trouble in getting from them, with relative certainty, just what is needed. Unfortunately, facts are but a small fraction of the information that they are expected to give. More frequently it is conclusions that are asked of them while judge and jurors apparently assume the identity of these conclusions with facts. It is really surprising to see how few men there are who can distinguish facts as given by the senses from conclusions derived from facts by the action of the mind. Conclusions may sometimes be facts, but when they are we cannot, as a rule, be absolutely certain thereof. Facts are unquestionable verities, but conclusions are of such a nature that we never can say with unqualified certainty that they are what we believe them to be. In a majority of instances it is pretty certain that they are deceptive illusions. Only after a large number of unquestionable facts have been brought together in one harmonious whole that will bear no other conceivable explanation are we at all reasonably sure of the soundness of any conclusion. Even when we have this the discovery of an adverse fact may upset or cast doubt on the most cherished and best substantiated of them. As a weather-vane shifts responsive to every change of the wind, so our unbiassed judgment, except when held in suspended judgment, is forced to change its attitude with each successive new accretion of fact until all possible information on the subject has been obtained.

The great bulk of expert testimony is nothing more than the opinions of men who we have reason to believe are more likely to be right than the majority of their fellows. If it is probable that in 100 decisions made by non-experts, merely on guess, from thirty to fifty of them be right, then an expert would be a man whose decisions would be correct in an average of over 50 per cent. It might only be 51 or 52 per cent., or it might go as high as 60 or 70 per cent., but never 100. The man has not yet been born whose judgment is always right. It should be remembered that in court trials the conditions are usually quite new on which the judgment has to be based, and therefore the proportion of cases in which even an expert can be expected to be right is much less than in ordinary transactions. The average man cannot or will not believe this, and if questioned upon the matter would insist that no one should be deemed an expert who cannot reach nearly or quite 100 per cent. He will not tolerate mistakes, and as a result is deluded into believing that the contradictions that occur among experts are due to the ignorance or venality of the one that is opposed to his way of looking at the subject. While there are no doubt ignorant as well as dishonest experts, the fact remains that even if they were all equally honest and equally able, there would probably be nearly as much difference of opinion among them as there is now. By far the largest part of the differences that arise among them is due to conditions over which they have no control. One may be in possession of a different set of facts from that known to the other, or one may lack some essential fact held by the other, and in either case there will be disagreement. If experts were only expected to give evidence on matters of direct experience, leaving the jury to perform its duty of synthesizing these facts, most of the trouble now complained of would disappear. While this would put the expert in his true place, it would not suit our juries or judges, because it is not what they are wanting. What they really want is some one to act as a scapegoat for the sins of erroneous judgment that they are sure they will commit if they rely on their own conclusions. They know that even when the facts are before them, their lack of experience in drawing conclusions from such facts is bound to lead them astray. They want an infallible mentor on whom they can lean without fear of error, and this they never can get in our world. View the matter as we may, and the conclusion is inevitably forced upon us that it is the jury that is at fault in most expert cases if justice fails. They are not competent to sift the evidence and get the truth from it. In trials of subjects in which they are competent, witnesses are not permitted to give their theories and guesses as evidence, but must stick to facts. Experts should be treated in this just as other witnesses are. When they are permitted to present theories the most diverse opinions are sure to be given on all disputed points, and that too with the utmost candor and honesty on their part. Science has never yet reached a true conclusion at a single bound. Every new field that is entered gives birth to a multitude of theories that contest with each other the right to live. Indeed, this is the very foundation principle of true inductive science.

Most expert cases enter the unsettled regions of science where the strife is at its maximum, and consequently where it would be a miracle if agreement should be found. The different experts are looking at the facts from different standpoints, and naturally come to different conclusions in the absence of any consensus of opinion among the competent. When the lawyers turn round and abuse them for this lack of agreement, charging them with dishonesty, it does not help matters much. Piqued by the taunts of the opposing council, they feel as if they were themselves on trial, and in anger may sometimes resent the attacks of their tormentors by withholding facts pertinent to a sound understanding of the case. In such instances the experts of the opposite side are usually ready to supply the missing data.

How many of the conclusions of physiology are definitely settled? Compare physiology with anatomy in this particular and see how vast the difference between them. Anatomy is almost entirely composed of mere statements of facts, while physiology is a blending of facts with theories. Anatomists are generally at peace with one another, while physiologists are divided in opinion on some of the most important principles of their science. Even when competent physiologists have come to an agreement it is usually quite a long time before the little men among them, who belong to the vanquished side, are willing to give up the fight. Pathology, practice, and bacteriology have perhaps more features of uncertainty than physiology, because so much of their growth requires the use of our judgment to determine the meaning of their facts. Comparative anatomy and histology are likewise full of reasoned-out conclusions, and therefore contain the same opportunities for disputation. How could experts before a jury be expected to agree on matters where there is no agreement among the leaders of thought in the subjects upon which they testify? It is folly to expect experts to be able to settle once and for all time issues so intricate that they defy the keenest intellects to fathom and the most careful researches to discover? Keep the expert where he belongs. Do not let him usurp the function of the juror until he actually becomes a member of the jury.

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THE INTERNATIONAL LEPROSY CONFERENCE

IT is not long since some of the newspapers of Maryland appeared to be in a panic because a leper was being exhibited by a well known medical gentleman of that State to illustrate a paper of his on the subject of leprosy. A few weeks later a Chicago medical man, in imitation of the Maryland professor, exhibited a leper in Chicago before a medical society, and a few of the papers of that city took the matter up and tried to make a sensation out of it. On each of these occasions the explanation was made to the public that no harm could come from these occurrences, as leprosy is not contagious. For many generations it has been the universal opinion that leprosy is contagious, and that the only safety of a community where lepers are found is in their complete isolation.. Lately the opinion has been growing that the old notion is false, that we have been afraid only of a name, and that to isolate lepers is a cruel wrong. Gradually have our American Boards of Health relaxed their care in this direction, with what wisdom the sequel will show. Certainly this modern American course does not comport with the ideas of the ancients, as shown in Numbers 5:1: "And the Lord spake unto Moses, saying, Command the children of Israel, that they put out of the camp every leper," etc. Neither does it agree with the experience of those who have made a study of the disease in the Sandwich Islands, Norway, Cyprus, India, China, and elsewhere.

There can be little or no doubt that for some reason we are at present immune to a surprising extent, but it may not be quite saf for us to assume that this immunity is inherent in our constitutions or a fixed certainty of our climate. There are very many unsolved problems connected with this disease, and its apparent fickleness in selecting climates where it shall perpetrate its ravages and people on whom it shall act is one of them. At the late Leprosy Congress in Berlin no one pretended to any knowledge on this point. There was almost perfect unanimity regarding the etiological relationship of Hansen's bacillus. Prof. Hansen, of Bergen, Norway, was personally present, and discussed the subject. He and others held that in all doubtful cases a diagnosis of leprosy should not be made until the bacillus has been found. Prof. Virchow, while holding that it was very reasonable to believe that Hansen's bacillus was the cause of leprosy, was not yet ready to assert positively such relationship, and would hold his mind in suspended judgment until the disease had been positively produced by it. Prof. Kaposi, of Vienna, declared that he had seen a case of tubercular leprosy in which Hansen's bacillus did not exist. He, however, agreed with the majority of authorities in accepting it as the cause of the disease. The general impression was that it was transmitted through abrasions, nasal affections, cuts or contact of mucous membranes. Dr. Schaffer, of Breslau, said that he had proved by microscopical examination that lepers with nasal affections scatter the bacilli to a distance of two or three meters from themselves. As leprous rhinitis is an early symptom in many cases, it was suggested that the nose may be a common place for the germ to enter. Syringomyelia and Morvan's disease were believed to be, in many cases, but masked forms of leprosy since Hansen's bacillus had been found in them.

At present the subject of leprosy is of unusual interest to the people of the United States because of the proposed annexation of the Sandwich Islands. The Berlin Congress failed to settle any of the points in the case we are most interested in. The fact that it gave the weight of its authority in behalf of the careful isolation of the victims of the disease by holding to its contagiousness, although expressed with great moderation, is rather in favor of the anti-annexationists. Until we are sure of the cause of our present immunity we should be careful of exposing ourselves any more than we can possibly avoid to this disease. It is true that the Chinese lepers of California, and the Norwegian leper colonies of Wisconsin, Minnesota, and Dakota, have done us no visible bodily harm. Out of 160 Norwegian lepers settled in the three last-named States long enough to have great-grandchildren, none of them has given the disease to someone else outside of, or even within, their own families. Such a record as this naturally inspires confidence. It is wise, however, not to be too sure of our freedom from danger, even with evidence that seems so convincing. There is plenty of positive proof that leprosy is contagious, and that it can start up in new regions. If we knew the cause of our immunity we might be in a condition to speculate upon its permanence, but devoid of this knowledge we should take no unnecessary chances.

If, as some believe, Hansen's bacillus is a modified form of the tubercle bacillus that has developed in the human organism, and is therefore wholly confined to human beings, the conditions would indeed be extraordinary in which its contagiousness would become very great. The shape and general appearance of the two bacilli are very much alike, and in their staining qualities they also resemble each other. When stained with aniline colors containing aniline-oil the common dilute mineral acids will in a short time decolorize either of them, but will do so to no other known kind of bacilli. If watery solutions of the dyes are used, and these are free from aniline-oil or phenol, dilute nitric acid will decolorize the tubercle bacilli, but not Hansen's. Prof. Babes says the latter is distinguished from the former by being collected in the body in large numbers, existing in apparently normal tissue and agglomerated together in forms called globi. He had met them principally in the skin, hair-follicles, nipples, and milk. It is to be hoped that when the next congress meets its members will be in possession of more satisfactory information.

AMONG THE EDITORS

A MEDICAL EDUCATION

To attain the best results, to be the true physician, a man must feel that he would not be content to do anything else; it must be a necessity to complete his happiness. If it is irksome, if he seeks to shun the ordinary or extraordinary demands of his calling; if he does not follow with the same interest a case that is unable to pay for his services as his most remunerative private patient, he can never expect to reap the full benefit or pleasure which the practice of his profession affords. He must recognize that his duties to his patients take precedence over any and all others. Social pleasures and social engagements must always be made with the understanding that they are subject to the demands of his professional duties. If then the embryo physician enters upon his calling in this spirit, the question of a medical education becomes one not difficult of solution. It goes without saying that a general education of the best character is none too good for such a responsible profession. That a man may be more or less successful without it by no means argues against its desirability and necessity; for those who have, without the benefits of a good, broad, general education, attained eminence in medicine, must continually reflect that they could have done much more and done it with greater intelligence and less effort, if they had received the proper foundation. The purely medical part will be determined by the locality, cost, time and numerous other accidental considerations. The student may with benefit reflect, that if he applies himself diligently he can complete a good medical course in three years, and then with profit spend two more in hospital work. If his means be abundant, he can spend one or two additional years in college work, and instead of "walking" on hospital, serve as interne in a general hospital and in an institution devoted to special work. Of course, it is not possible for every graduate to get desirable hospital work; but it is eminently proper to make the effort, and not to give up until something has been attained in that line. It is only after a man has been in practice some years that he realizes at what a disadvantage a man works who has had no hospital experience. At the end of this time it may be said that a man has been prepared for work in medicine; and this does not mean that there is nothing left for him to learn, but that he has just reached the point where he can make the most of the opportunities daily offered to add to his store of information.—*Gaillard's Med. Jour.*

THE PHYSICIAN'S PRIVATE DIAGNOSTIC LABORATORY

The microscope, the test-tubes and the spirit-lamp by no means constitute the requisite outfit. A number of additional pieces of laboratory equipment are required, until the office laboratory of the progressive physician becomes a miniature chemic, bacteriologic and pathologic laboratory. A small microtome and the centrifuge with its hematocrite are desirable; a simple sterilizer, incubator, and paraffin-bath are absolutely necessary; along with such glassware as test-tubes, flasks, slides, and cover-glasses and a number of reagents. It fortunately happens that, aside from the microscope and microtome, the material necessary to equip a small working laboratory for purposes of clinical diagnosis is comparatively inexpensive, providing material of a simple character be chosen. A judicious outlay of $25 would supply the material necessary for a useful nucleus.

No doubt there are hundreds of physicians over the land who appreciate more or less keenly the desirability of employing laboratory methods in medical and surgical diagnosis, and to these individuals the item of expense in laboratory equipment would offer no obstacle. More serious objections are raised, and notably the one which confesses total ignorance of the methods of modern laboratory work. Here is indeed a serious stumbling-block—one, unfortunately, which lies in the way not only of the older practitioner, but also before the majority of recent graduates in medicine, who imagined while they were in college that they were receiving "practical laboratory instruction," but who find themselves utterly helpless when the first tumor or the first case of diphtheria presents itself for diagnosis. The fault lies in an ignorance of laboratory technique which makes the would-be laboratory worker quite as helpless as one who aspired to do modern surgery while ignorant of the technique of hemostasis or of aseptic procedure.

How can this essential knowledge of laboratory manipulation be obtained? Obviously, by practice alone. This means that a reform should be inaugurated in a large portion of the laboratory instruction, as given to-day by medical schools, so that each student will be provided with a complete, simple laboratory outfit, and enabled to pursue all the steps of technical detail involved in an elementary study of such subjects as histology, bacteriology, and pathology. Moreover, for graduates in medicine, identical courses should be offered involving the various methods of a laboratory diagnosis, until the steps in manipulation and the tools required become thoroughly familiar.—*Jour. Amer. Med. Asso.*

ARE WE ALL FOOLS?

The man who will invent some kind of a process, or a serum, that will actually destroy the notion that "There is always room at the top," should receive a pension of fifty thousand dollars a year for the next fifty thousand years! Twenty-five thousand students in our medical colleges last year! Think of it. Nothing in the world to make such a vast army, only because each thinks himself able to get where there is always room. There are hundreds of men who would be recognized as skillful as Senn in the use of the knife—if they had the opportunity. Do not think, not even for one little minute, that Dr. Polk, of New York, takes in one hundred thousand dollars a year because he is just five times as talented as the man who takes in twenty thousand. If these twenty-five thousand medical students thought they would have to fight their way along, struggle through immense difficulties, that many of them would surely fall by the way and that this "room at the top" business is poetical fancy; we say, if this were better understood there would be the greatest outpouring from college halls that the world has ever seen. But fortunately for these schools, "ignorance is bliss," sure enough.—*Journal of Practical Medicine.*

MEDICAL EXPERTS

Medical experts should be chosen by the communities needing their services. All evidence bearing upon medical matters should be laid before them, and their decision, obtained in consultation, should be given to the judge for his guidance. It would then soon be seen whether doctors so often disagree. But this is not all, for we all know that the chief aim of lawyers in trying a case is to discredit witnesses whose evidence may be damaging to their cause. We all know that it is much more easy to ask a hundred foolish and bewildering questions than to answer a dozen sensible ones, and the lawyers are aware of it and use their privilege unfairly and indecently. If the doctors could only get a chance to cross-question lawyers now and then, there would be some very pretty reading in the papers, and the lion's skin might often be seen to fall, with a violent thud, from the real ass's shoulders.—*International Jour. of Surg.*

IS INFLUENZA COMING?

For years past that most terrible of scourges, influenza, has swept through and through Great Britain. Gradually its victims have become fewer, and at times one had hoped that the venomous creature was scotched, but, alas! it has never really disappeared. One of the things about the malady that gives it such lingering vitality is that an attack, unlike most other zymotics in this respect, fails to give immunity to the sufferer. When the epidemic wave first broke upon our own islands some seven years ago, it came from China by way of Russia. At the present moment, and for months past, influenza, in a severe form, has been raging in the district of Merv. It has claimed an immense number of victims, and although fewer deaths are now reported from the disease, yet on the other hand its virulence has increased rather than lessened. The latest reports state that it leaves severe results; such as heart affections, paralysis and spastic affections of the limbs. While hoping that as a nation we may be spared invasion by this mortal malady, against which sanitary measures seem useless, we must own to some disquietude at its presence in Russia, which has so often been its half-way house so far as Great Britain is concerned.—*Medical Press.*

VOMITING WHILE UNDER ANESTHETICS

The occurrence of a case of death while under an anesthetic (gas or ether), due apparently to the inhalation of vomited matter, has led Mr. Bertram Hunt to discuss again the advisability of washing out the stomach in cases of intestinal obstruction requiring operation. Several dangers are apt to arise from leaving the stomach loaded in such cases. (*a*) The absorption of the poisonous material which accumulates in the stomach in most cases of obstruction, often causes severe toxic symptoms, and even death, some hours after the obstruction has been relieved by operation; (*b*) vomiting may occur, and the stercoral matter being inhaled into the lungs during anesthesia, or even an hour or so after recovery from it, may cause death; (*c*) a minor degree of the same accident may set up severe or fatal septic pneumonia.

The late Mr. Greig Smith advised that in any case of intestinal obstruction with a distended stomach either the stomach should be washed out before giving the anesthetic or a local anesthetic only should be used. There is, however, this advantage in such a proceeding, that the necessary manipulations in a conscious person often cause such retching that collapse may easily occur when a patient is already in a critical condition, and Mr. Bertram Hunt, balancing the advantages and disadvantages of the various courses open to the surgeon, concludes in favor of performing lavage as soon as the patient is fully under the anesthetic, taking means to minimize, as far as possible, the danger from vomiting occurring before the stomach is emptied.—*The Hospital.*

CURRENT TOPICS

THE INDIVIDUAL COMMUNION-CUP

The following extract is from a paper by Howard A. Anders, presented in the Section on State Medicine, at the forty-eighth annual meeting of the American Medical Association, held in Philadelphia, June 1-4, 1897. The paper is entitled "The Progress of the Individual-cup Movement, Especially Among Churches" (*Jour. Amer. Med. Asso.*, Oct. 16, 1897):

The individual-cup idea and the individual-cup movement are the logical outcome of modern sanitary science. Clear and cogent reasons have led to the conception of the one; a consistent, courageous, and practical spirit, to the birth and growth of the other. In the attainment of our present knowledge of the causes, modes of spread and means of prevention of the communicable diseases, in the development of the antiseptic and aseptic era in which we live, there has arisen simultaneously, intuitively almost, a more or less general and rational condemnation of the public use of a drinking-vessel in common under any circumstances.

One needs but to see an individual-communion outfit in practical use to believe in it. It is beautiful, simple, cleanly, easily worked and handled by both pastor and people, adds harmony, dignity, impressiveness, and devotion to the service. The individual cups are made of silver, plated ware, aluminum or glass. They vary from one and one-half to two inches in height, are made with heavy bases about three-fourths of an inch in diameter, toward which the sides taper in either straight or gently curved lines from the tops, which are from one to one and one-fourth inches in diameter, so that they are somewhat beaker-shaped; while others, again, may be shorter, with handles, like small teacups, or even goblet-shaped. The cups (holding about one ounce) are served on hardwood or light polished metallic racks or trays, holding from forty-eight to sixty cups; the rack may have two or three tiers of twenty cups each set in shallow, round openings; covers to exclude dust may be raised and lowered over the cups. The cups are filled, partly only, from a tankard or fountain supported over the tray. It has twenty or thirty small spouts diverging from under its bottom, each spout corresponding to the position of a cup underneath. Or there may be a half-gallon bottle, with tubing, stopcock, and metal pipe, from the under side of which are a number of small, short tubes corresponding to the number of cups in the row to be filled. According to the particular custom, after the communicant has been served—at the altar or in the pew—the cup is replaced on the tray or rack (tapering cups are easily telescoped in a small pile), or in pew-rings, or in small racks holding five or six cups, to be collected after the service. The cups are cleansed first in warm, soapy water, with a sponge or swab, and then being placed in wire baskets, are immersed in boiling water for a few minutes. They are then dried, replaced in the chalice-holders and put away in dust-proof cabinets until the next communion service.

Rev. V. M. Law, M.D., an Episcopal rector in California for the last ten years, prior to which he was a practicing physician and analytic chemist, has devised an ingenious, single sanitary cup with scalloped rim. It was designed to meet the requirements of a "one-cup" ritual, but is not so simple in arrangement or strictly sanitary as the individual-cup method. The scallops are used in succession by the communicants, each scallop receiving a sufficient quantity from a reservoir holding ten ounces, fixed within the chalice and so constructed that when the latter is tipped in the act of drinking, a bubble of air enters below so as to force out another supply of wine for the next communicant. During the past fifteen months Dr. Law has made a sturdy, single-handed and successful fight for a sanitary communion in his locality (Oakland, Cal.), and many churches are now using individual cups in consequence.

Wherever individual communion-cups have been adopted, the testimony of pastor and people has been expressive of the utmost satisfaction. They would not be persuaded to return to the old method. There is a sense of relief in using a clean, sanitary cup, devotion is promoted, the ceremony reverenced. Ministers say that individual cups are more convenient, and that there is less time occupied in serving them, and without any confusion, than by using common cups. Again, from nearly all churches now using the individual cups come replies stating that the number of church-members who attend communion service has increased, and in some instances greatly so; in one Reformed Church in New York the number of communicants was doubled; in a Presbyterian Church about 200 more communicants, and in another church 80 per cent. instead of 40 per cent. attend the service. One pastor writes that he has found "that the sanitary safety of the individual chalice appeals to the intelligence, removes all the objections of the sensitive, and makes the service of the Lord's Supper more largely attended."

The *Congregationalist*, Dec. 26, 1895, speaking of nearly forty congregations which at that time had introduced individual cups, says: "Not an intimation of regret has been heard by us from churches now using the individual cup."

The progress of the individual-communion-cup movement shows that there are no valid objections to the use of individual chalices on scriptural, historic, or present-practice grounds.

REST

Dr. C. F. Ulrich, of Wheeling, W.Va., presented a paper, with the above title, at the forty-eighth annual meeting of the American Medical Association (*Jour. of the Amer. Med. Asso.*, Oct. 9, 1897), of which the following is an extract:

The system requires a certain amount and a particular kind of nutritive material to keep the animal machine in motion. If this were always systematically administered, the proper balance would be maintained and the body would continue healthy, barring external influences. But, owing to circumstances producing variation in the activity of some of the functions, thus increasing or diminishing the waste, the quantity of the required nutrition varies very materially. Besides, the ignorance of the individual as to what constitutes suitable nutriment, the unrestrained indulgence of the appetite, on special convivial occasions, perhaps too frequently repeated, cause many to take too much food, or of an improper kind, along with undue quantities of intoxicating beverages. Hence ensue various ailments, by which the whole machinery is disabled, such as gastritis, enteritis, gastro-intestinal catarrh, followed by dyspepsia and its accompanying horrors. The average man or woman now begins to take medicine: pepsin, peptonoids, stomach-tonics, aperients, purgatives, etc. This may relieve temporarily in some instances, but generally leaves the digestive apparatus in a worse condition than before. The author's favorite remedy, and doubtless the one to be preferred, is rest. When the headache and the acid eructations give evidence of the failure of the stomach to do its work, and of the consequent fermentation of the ingesta, he advises his patients to drink a quantity of warm water and give the stomach a rest. After the expiration of the period of rest, he puts them upon a suitable diet, both as respects quantity and quality, at the same time prescribing some simple innocuous medicine that will in some degree assist nature without interfering with any function. The rest which the stomach enjoys during its fast, the subsequent moderation in eating, with judicious selection of food, is what accomplishes the cure, unless actual destruction or perversion of tissue had taken place before the case came under the observation of the physician.

If the muscles are too severely taxed by unusual exertions, or by too long-continued exercise, the waste is greater than the repair. A portion of the waste, not being entirely removed by the emunctories, remains as an irritant. The result is an unhealthy contraction of the muscles, in the form of cramps or twitchings, and final wasting away, with loss of power. Here again the best remeay is rest. By rest is not meant absolute cessation from labor, but moderate exercise, or such a change of movement as will bring another set of muscles into play, giving those that have been overworked less to do, which is often better than absolute quietude. The repairing force that exists and exercises its function in every department of the human organization, immediately goes to work to replace the wasted tissue and restore the lost power. While the organs are in full activity, the waste exceeds the repair, and there arises an absolute necessity for rest. For this purpose nature has provided sleep.

Every effort of the brain to induce motion of the muscles, through its electric wires, the nerves; every thought; every emotion; every strain on the mind, wears out a certain portion of it. If the brain is engaged in continuous action by day and does not take the necessary rest at night, an unhealthy condition will ensue, resulting in lassitude, inability to perform its functions, perversion of its powers, and finally insanity or imbecility. Before the final catastrophe is reached, all sorts of irregularities in the general health occur, on account of the great influence of the brain on all the functions of the body. Now, if the brain enjoys its regular periods of rest, by relaxation from labor during certain hours of the day and undisturbed sleep at night; an extended rest during parts of the year, by change of occupation from the ordinary routine of business to something engaged in for pleasure, it will remain strong and healthy; more and better work will be done in the limited period than could be accomplished in a much longer time without the much-needed rest.

All teaching is best enforced by example. If we desire to be heard and obeyed by our clients we must set them a good example in our own conduct. Let us be moderate, taking a reasonable rest in eating, in drinking, in physical exercise, but especially in the labor of the brain, which is the organ most extensively used, and often most abused, by the highly educated and constantly employed physicians. Let us exercise our powers systematically and cautiously, looking to the advantage and benefit of our patients, but at the same time not forgetting ourselves. The physician should take a short rest every day. If he is engaged during the night, let him enjoy a siesta in the day-time. A little recreation at moderate intervals during the year would be of great benefit. Rural excursions away from the noise, dust, and turmoil of the city, would recuperate his tired body and exhausted mind so that he could return to his work fresh, rejuvenated, and full of vigor. But of all things, let him not fail to take a lengthy vacation once a year

FRANCE LEGISLATES AGAINST FOREIGN MEDICAL PRACTITIONERS

In the *Boston Med. and Surg. Jour.* for October 28, appears the following letter from a correspondent:

"You may possibly have heard that the French have been legislating recently in such a way against foreign doctors that, as their law now stands, it is impossible for a foreign doctor to come and practice in France. To do so he must first take the French B.A. degree, and then go through the five-year curriculum. This means that he must spend about seven years in France before being allowed to practice, and this no matter who he may be, how well known, or what positions he may have occupied.

"You will see at a glance that this is practically a prohibitive law. Suppose, for instance, that your health broke down and you wished to come and practice in the south of France for the sake of the climate. It could not be done.

"I consider this law, although as you will see it favors me, preventing other men from coming here, as so contemptible that I think the men at home ought to take some notice of it, by legislating against the foreigners who shut us out—French, Germans, Swiss, and (soon) the Italians—and also by not sending their patients to French practitioners here or in the South.

"I think the action of the French authorities is one that is grossly unfair, and that in the long run, when the present men who are here die off, it is going to cause a great deal of annoyance and trouble to the traveling Americans. The Frenchmen never speak English, and you know that all their habits of hygiene and their care of the sick, as well as methods of treatment, differ widely from ours. The day will come, with the present law, when Americans will have no one to fall back on but these Frenchmen, who, whatever their merit may be, which I do not contest for a moment, will never get on well with Americans, and particularly with Americans ignorant of the French language. Fancy yourself, for instance, falling ill in Russia with no one but a Russian physician who didn't know English!"

MEDICAL AND SURGICAL ICONOCLASM

Marvin L. Graves (*Med. Rec.*, Nov. 6, 1897) says in part:

Let me point out to you some of the dangers that will threaten us if we lose this spirit of beneficent iconoclasm in our professional work. We do not record accurately and fully our cases in detail. We do not take time to study fully the disease we treat. We do not examine each case and note all signs and symptoms. We do not group, tabulate, and analyze series of cases, and thus get at correct conclusions. We do not report or write up our cases and subject them to the kindly criticism and discussion of the profession. Our haste and inaccurate style are illustrated in the following: How many of us, called to a man suffering intense pain, ever stop to examine him carefully before shooting a hypodermic of morphine into his arm? Admit the immediate necessity of relief—how many of us leave the house when pain has ceased without further effort to find out what really was the matter? How often, when asked to prescribe for piles, we write a prescription without even requesting an examination or knowing the condition, and later find the patient in the hands of an advertising quack, being cured of ulcer in the rectum? How frequently complaint of headache receives a routine prescription without question, when uremic toxemia or uterine disorders are the offenders? How often does a uric-acid storm or a bilious attack find itself labelled malarial fever and cured in twelve hours with calomel and quinine and arsenic? How frequently does a slight dermatitis, insignificant in nature and effect, flame out a violent erysipelas and require all the skill of Dr. Blowhard to cure in two days? How often, oh! how often is typhoid fever turned into febricula and chased off the field of action in four days by the specific treatment of Dr. Greatman? How frequently is an ordinary bronchitis with engorged liver and pain in the side kept under dim gaslight and slippered tread and whispered consultation for two weeks; or a terrible pneumonia throttled in twenty-four hours by the heroic treatment of Dr. Allgas?

SELECTED PAPER

ADDRESS IN MEDICINE DELIVERED BEFORE THE BRITISH MEDICAL ASSOCIATION AT MONTREAL, SEPTEMBER 1, 1897.

By WILLIAM OSLER, M.D., F.R.C.P.,

Professor of Medicine in the Johns Hopkins University.
Baltimore, Md.

TO trace successfully the evolution of any one of the learned professions would require the hand of a master—of one who, like Darwin, combined the capacity for patient observation with philosophic vision. In the case of medicine the difficulties are enormously increased by the extraordinary development which belongs to the history of the present century. The rate of progress has been too rapid for us to appreciate, and we stand bewildered and, as it were, in a state of intellectual giddiness, when we attempt to obtain a broad, comprehensive view of the subject. In a safer "middle flight" I propose to dwell on certain of the factors which have molded the profession in English-speaking lands beyond the narrow seas—of British medicine in Greater Britain. Even for this lesser task (though my affiliations are wide and my sympathies deep) I recognize the limitations of my fitness, and am not unaware that in my ignorance I shall overlook much which might have rendered less sketchy a sketch necessarily imperfect.

Evolution advances by such slow and imperceptible degrees that to those who are part of it the finger of time scarcely seems to move. Even the great epochs are seldom apparent to the participators. During the last century neither the colonists nor the mother country appreciated the thrilling interest of the long-fought duel for the possession of this continent. The acts and scenes of the drama, to them detached, isolated, and independent, now glide like dissolving views into each other, and in the vitascope of history we can see the true sequence of events. That we can meet here to-day, Britons on British soil, in a French province, is one of the far-off results of that struggle. This was but a prelude to the other great event of the eighteenth century, the revolt of the colonies and the founding of a second great English-speaking nation; in the words of Bishop Berkeley's prophecy, "Time's noblest offspring."

Surely a unique spectacle that a century later descendants of the actors of these two great dramas should meet in an English city in New France! Here the American may forget Yorktown in Louisburg, the Englishman Bunker Hill in Quebec, and the Frenchman both Louisburg and Quebec in Chateauguay; while we Canadians, English and French, in a forgiving spirit, overlooking your unseemly quarrels, are only too happy to welcome you to our country—this land on which and for which you have so often fought.

Once, and only once, before in the history of the world could such a gathering as this have taken place. Divided though the Greeks were, a Hellenic sentiment of extraordinary strength united them in certain assemblies and festivals. No great flight of imagination is required to picture a notable representation of our profession in the fifth century B.C., meeting in such a colonial town as Agrigentum, under the presidency of Empedocles. Delegates from the mother cities, predecessors of Hippocrates of the stamp of Damocedes and Herodicus, delegates from the sister colonies of Syracuse and other Sicilian towns, from neighboring Italy, from far-distant Massilia, and from still more distant Panticapæum and Istria. And in such an assemblage there would have been men capable of discussing problems of life and mind more brilliantly than in many subsequent periods, in proportion as the pre-Hippocratic philosophers in things medical had thought more deeply than many of those who came after them.

We English are the modern Greeks, and we alone have colonized as they did, as free peoples. There have been other great colonial empires, Phœnician, Roman, Spanish, Dutch, and French, but in civil liberty and intellectual freedom Magna Græcia and Greater Britain stand alone. The parallel so often drawn between them is of particular interest with reference to the similarity between the Greek settlements in Sicily and the English plantations on the Atlantic coast. Indeed, Freeman says, "I can never think of America without something suggesting Sicily, or of Sicily without something suggesting America." I wish to use the parallel only to emphasize two points, one of the difference and one of resemblance. The Greek colonist took Greek with him. Hellas had no geographical bounds; "Massilia and Olbia were cities of Hellas in as full sense as Athens or Sparta." While the emigrant Britons changed their sky, not their character, in crossing the great sea, yet the home-stayers had never the same feeling towards the plantations as the Greeks had towards the colonial cities of Magna Græcia. If, as has been shrewdly surmised, Professor Seely was Herodotus re-incarnate, how grieved the spirit of the father of history must have been to say of Englishmen, "nor have we even now ceased to think of ourselves as simply a race inhabiting an island off the northern coast of the continent of Europe." The assumption of gracious superiority which, unless carefully cloaked, smacks just a little of our national arrogance, is apt to jar on sensitive colonial nerves. With the expansion of the empire, and the supplanting of a national by an imperial spirit, this will become impossible. That this sentiment never prevailed in Hellas, as it did later in the Roman Empire, was due largely to the fact that in literature, in science, and in art the colonial cities of Greece early overshadowed the mother cities. It may be because the settlements of Greater Britain were things of slower growth that it took several generations and several bitter trials to teach a lesson the Greeks never had to learn.

The Greek spirit was the leaven of the old world, the workings of which no nationality could resist; thrice it saved western civilization, for it had the magic power of leading captivitv captive and making even captive conquerors the missionaries of her culture. What modern medicine owes to it will appear later. "The love of science, the love of art, the love of freedom, vitally correlated to each other and brought into organic union," were the essential attributes of the Greek genius (Butcher). While we cannot claim for the Anglo-Saxon race all of these distinctions, it has in a high degree that one which has been the most precious gift of the race to the world—the love of freedom.

> "Of freedom in her regal seat
> Of England."

It would carry me too far afield to discuss the difference between the native Briton and his children scattered so widely up and down the earth. In Canada, South Africa, Australia, and New Zealand types of the Anglo-Saxon race are developing which will differ as much from each other, and from the English, as the American does to-day from the original stock; but amid these differences can everywhere be seen those race-qualities which have made us what we are—"courage, national integrity, steady good sense, and energy in work." At a future meeting of the Association, perhaps in Australia, a professional Sir Charles Dilke with a firm grasp of the subject may deal with the medical problems of Greater Britain in a manner worthy of the address in medicine. My task, as I mentioned at the outset, is much less ambitious.

Could some one with full knowledge patiently analyze the characteristics of British medicine, he would find certain national traits sufficiently distinct for recognition. Three centuries cannot accomplish very much (and that period has only just passed since the revival of medicine in England), but the local conditions of isolation, which have been singularly favorable to the development of special peculiarities in the national character, have not been without effect in the medical profession. I cannot do more than touch upon a few features, which may be useful as indicating the sources of influences upon Great Britain in the past, and which may perhaps be suggestive as to lines of progress in the future.

Above the fireplace in Sir Henry Acland's study are three panelled portraits of Linacre, Sydenham, and Harvey; the scroll upon them reads, "*Literae, Praxis, Scientia.*" To this great triumvirate, as to the fountain-heads, we may trace the streams of inspiration which have made British medicine what it is to-day.

Linacre, the type of the literary physician, must ever hold a unique place in the annals of our profession. To him was due in great measure the revival of Greek thought in the sixteenth century in England, and in the last Harveian oration Dr. Payne has pointed out his importance as a forerunner of Harvey. He made Greek methods available; through him the art of Hippocrates and the science of Galen became once more the subject of careful, first-hand study. Linacre, as Dr. Payne remarks, "was possessed from his youth till his death by the enthusiasm of learning. He was an idealist devoted to objects which the world thought of little use." Painstaking, accurate, critical, hypercritical perhaps, he remains to-day the chief literary representative of British medicine. Neither in Britain nor in Greater Britain have we maintained the place in the world of letters created for us by Linacre's noble start. It is true that in no generation since has the profession lacked a man who might stand unabashed in the temple at Delos; but, judged by the fruits of learning, scholars of his type have been more common in France and Germany. Nor is it to our credit that so little provision is made for the encouragement of these studies. For years the reputation of Great Britain in this matter was sustained almost alone by the great Dee-side scholar, the surgeon of Banchory, Francis Adams—the interpreter of Hippocrates to English students. In this century he and Greenhill have well maintained the traditions of Linacre. Their work, and that of a few of our contemporaries, among whom Ogle must be specially mentioned, have kept us in touch with the ancients. But by the neglect of the study of the humanities, which has been far too general, the profession loses a very precious quality.

While in critical scholarship and accurate historical studies British medicine must take a second place, the influence of Linacre, exerted through the Royal College of Physicians and the old universities, has given to the humanities an important part in education, so that they have molded a larger section of the profession than in any other country. A physician may possess the science of Harvey and the art of Sydenham, and yet there may be lacking in him those fine qualities of heart and head which count for so much in life. Pasture is not everything, and that indefinable, though well-understood, something which we know as breeding is not always an accompaniment of great professional skill. Medicine is seen at its best in men whose faculties have had the highest and most harmonious culture. The Lathams, the Watsons, the Pagets, the Jenners, and the Gairdners have influenced the profession less by their special work than by exemplifying those graces of life and refinements of heart which make up character. And the men of this stamp in Greater Britain have left the most enduring mark—Beaumont, Bovell, and Hodder, in Toronto; Holmes, Campbell, and Howard, in this city; the Warrens, the Jacksons, the Bigelows, the Bowditches, and the Shattucks, in Boston; Bard, Hossack, Francis, Clark, and Flint, of New York; Morgan, Shippen, Redman, Rush, Coxe, the elder Wood, the elder Pepper, and the elder Mitchell, of Philadelphia—Brahmins all, in the language of the greatest Brahmin among them, Oliver Wendell Holmes—these and men like unto them have been the leaven which has raised our profession above the dead level of a business.

The *literae humanitores*, represented by Linacre, revived Greek methods; but the faculty during the sixteenth and at the beginning of the seventeenth centuries was in a slough of ignorance and self-conceit, and not to be aroused even by Moses and the prophets in the form of Hippocrates and the fathers of medicine. In the pictures referred to, Sydenham is placed between Linacre and Harvey; but science preceded practice, and Harvey's great Lumleian lectures were delivered before Sydenham was born. Linacre has been well called, by Payne, Harvey's intellectual grandfather. "The discovery of the circulation of the blood was the climax of that movement which began a century and a half before with the revival of Greek medical classics, and especially of Galen." (Payne.) Harvey returned to Greek methods, and became the founder of modern experimental physiology and the great glory of British scientific medicine. The demonstration of the circulation of the blood remains in every detail a model research. I shall not repeat the oft-told tale of Harvey's great and enduring influence, but I must refer to one feature which until lately has been also a special characteristic of his direct successors in Great Britain. Harvey was a practitioner and a hospital physician. There are gossiping statements by Aubrey to the effect that "he fell mightily in his practice" after the publication of the "De Motu Cordis" and that his "therapeutic way" was not admired; but to these his practical success is the best answer. It is remarkable that a large proportion of all the physiological work of Great Britain has been done by men who have become successful hospital physicians or surgeons. I was much impressed by a conversation with Professor Ludwig in 1884. Speaking of the state of English physiology, he lamented the lapse of a favorite English pupil from science to practice; but, he added, "while sorry for him, I am glad for the profession in England." He held that the clinical physicians of that country had received a very positive impress from the work of their early years in physiology and the natural sciences. I was surprised at the number of names which he cited; among them I remember Bowman, Paget, Savory, and Lister. Ludwig attributed this feature in part to the independent character of the schools in England, to the absence of the university element so important in medical life in Germany, but, above all, to the practical character of the English mind, the better men preferring the active life in practice to a secluded laboratory career.

Thucydides it was who said of the Greeks that they possessed "the power of thinking before they acted, and of acting, too." The same is true in a high degree of the English race. To know what has to be done, then to do it, comprises the whole philosophy of practical life. Sydenham—*Angliae lumen*, as he has been well called—is the model practical physician of modern times. Linacre led Harvey back to Galen, Sydenham to Hippocrates. The one took Greek science, the other not so much Greek medicine as Greek methods, particularly intellectual fearlessness and a certain knack of looking at things. Sydenham broke with authority and went to nature. It is an extraordinary fact that he could have been so emancipated from dogmas and theories of all sorts. He laid down the fundamental proposition, and acted upon it, that "all diseases should be described as objects of natural history." To do him justice we must remember, as Dr. John Brown says, "in the midst of what a mass of errors and prejudices, of theories actively mischievous, he was placed, at a time when the mania of hypothesis was at its height, and when the practical part of his art was overrun and stultified by vile and silly nostrums." Sydenham led us back to Hippocrates; I would that we could be led oftener back to Sydenham! How necessary to bear in mind what he says about the method of the study of medicine. "In writing, therefore, such a natural history of diseases, every merely philosophical hypothesis should be set aside and the manifest and natural phenomena, however minute, should be noted with the utmost exactness. The usefulness of this procedure cannot be overrated easily, as compared with the subtle inquiries and trifling notions of modern writers, for can there be a shorter or indeed any other way of coming at the morbific causes or discovering the curative indications than by a certain perception of the peculiar symptoms? By these steps and helps it was that the father of physic, the great Hippocrates, came to excel, his theory being no more than an exact description or view of nature. He found that nature alone often terminates diseases, and works a cure with a few simple medicines and often enough with no medicines at all." Well indeed has a recent writer remarked, "Sydenham is unlike every previous teacher of the principles and practice of medicine in the modern world." He, not Linacre or Harvey, is the model British physician in whom were concentrated all those practical instincts upon which we lay such stress in the Anglo-Saxon character.

The Greek faculty which we possess of thinking and acting has enabled us, in spite of many disadvantages, to take the lion's share in the great practical advances in medicine. Three among the greatest scientific movements of the century have come from Germany and France. Bichât, Laennec, and Louis laid the foundation of modern clinical medicine; Virchow and his pupils, of scientific pathology; while Pasteur and Koch have revolutionized the study of the causes of disease; and yet the modern history of the art of medicine could almost be written in its fulness from the records of the Anglo-Saxon race. We can claim every practical advance of the very first rank—vaccination, anesthesia, preventive medicine, and antiseptic surgery, the "captain jewels in the carcanet" of the profession, beside which can be placed no others of equal lustre.

One other lesson of Sydenham's life needs careful conning. The English Hippocrates, as I said, broke with authority. His motto was

> "Thou Nature art my goddess; to thy law
> My services are bound."

Undue reverence for authority as such, a serene satisfaction with the *status quo*, and a fatuous objection to change have often retarded the progress of medicine. In every generation, in every country, there have been, and ever will be, *laudatores temporis acti*, in the bad sense of that phrase, not a few of them men in high places, who have lent the weight of a complacent conservatism to bolster up an ineffectual attempt to stay the progress of new ideas. Every innovator, from Harvey to Lister, has been made to feel its force. The recently issued life of Thomas Wakley is a running commentary on this spirit, against the pricks of which he kicked so hard and so effectually. But there are signs of a great change. The old universities and the colleges, once the chief offenders, have been emancipated, and remain no longer, as Gibbon found them, steeped in port and prejudice. The value of authority *per se* has lessened enormously, and we of Greater Britain have perhaps suffered as the pendulum has swung to the other extreme. Practice loves authority, as announced in "the general and perpetual voice of men." Science must ever hold with

Epicharmus that a judicious distrust and wise scepticism are the sinews of the understanding. And yet the very foundations of belief in almost everything relating to our art rest upon authority. The practitioner cannot always be the judge; the responsibility must often rest with the teachers and investigators, who can only learn in the lessons of history the terrible significance of the word. The fetters of a thousand years in the treatment of fever were shattered by Sydenham, shattered only to be riveted anew. How hard was the battle in this century against the entrenched and stubborn foe! Listen to the eloquent pleadings of Stokes, pleading as did Sydenham, against authority, and against the bleedings, the purgings, and the sweatings of fifty years ago. "Though his hair be gray and his authority high, he is but a child in knowledge and his reputation an error. On a level with a child, so far as correct appreciation of the great truths of medicine is concerned, he is very different in other respects; his powers of doing mischief are greater; he is far more dangerous. Oh, that men would stoop to learn, or at least cease to destroy!" The potency of human authority among the powers that be was never better drawn than by the judicious Hooker in his section on this subject. "And this not only with 'the simpler sort,' but the learneder and wiser we are the more such arguments in some cases prevail with us. The reason why the simpler sort are moved with authority is the conscience of their own ignorance; whereby it cometh to pass that, having learned men in admiration, they rather feared to dislike them than know wherefore they should allow and follow their judgments. Contrariwise, with them that are skilful, authority is much more strong and forcible; because they only are able to discern how just cause there is why to some men's authority so much should be attributed. For which cause the name of Hippocrates (no doubt) were more effectual to persuade even such men as Galen himself than to move a silly empiric."[1] Sydenham was called "a man of many doubts," and therein lay the secret of his great strength.

Passing now to the main question of the development of British medicine in Greater Britain, I must at once acknowledge the impossibility of doing justice to it. I can only indicate a few points of importance, and I must confine my remarks chiefly to the American part of Greater Britain. We may recognize three distinct periods corresponding to three distinct waves of influence, the first from the early immigration to about 1820, the second from about 1820 to 1860, and the third from about 1860 to the present time.

The colonial settlements were contemporaneous with the revival of medicine in England. Fellow students of Harvey at Cambridge might have sailed in the Mayflower and the Arbella. The more carefully planned expeditions usually enlisted the services of a well-trained physician, and the early records, particularly those of the New England colonies, contain many interesting references to these college-bred men. Giles Firman, who settled in Boston in 1632, a Cambridge man, seems to have been the first to give instruction in medicine in the New World. The parsons of that day had often a smattering of physic, and illustrated what Cotton Mather called an "angelical conjunction." He says, "Ever since the days of Luke, the Evangelist, skill in *Physick* has been frequently professed and practiced by Persons whose more declared Business was the study of Divinity." Firman himself, finding physic "but a meane helpe," took orders. The English physicians in the New England colonies were scholarly, able men. Roger Chillingworth, in Hawthorne's "Scarlet Letter," has depicted them in a sketch of his own life: "Made up of earnest, studious, thoughtful, quiet years, bestowed faithfully for the increase of knowledge, faithfully, too, for the advancement of human welfare—men thoughtful for others, caring little for themselves, kind, just, true, and of constant if not warm affections"—a singularly truthful picture of the old colonial physician.

Until the establishment of medical schools —University of Pennsylvania, 1763; King's College (afterwards Columbia), 1767; Harvard, 1782—the supply of physicians for the colonies came from Great Britain, supplemented by men trained under the old apprentice system, and of colonists who went to Edinburgh, Leyden, and London for their medical education. This latter group had a most powerful effect in molding professional life in the pre-revolutionary period. They were men who had enjoyed not alone the instruction but often the intimate friendship of the great English and European physicians. Morgan, Rush, Shippen, Bard, Wistar, Hossack, and others had received an education comprising all that was best in the period, and had acquired the added culture which can only come from travel and acquaintance with the world. Morgan, the founder of the medical school of the University of Pennsylvania, was away seven years, and before returning had taken his seat as a corresponding member of the French Academy of Surgery, besides having been elected a Fellow of the Royal Society. The War of Independence interrupted temporarily the stream of students, but not the friendship which existed between Cullen and Fothergill and their old pupils in America. The correspondence of these two warm friends of the colonies testified to the strong professional intimacy which existed at the time between the leaders of the profession in the old and new worlds.

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[1] "Ecclesiastical Polity," B ok ii, vii 2.

But neither Boerhaave, Cullen, nor Fothergill stamped colonial medicine as did the great Scotchman, John Hunter. Long, weary centuries separated Harvey from Galen; not a century elapsed from the death of the great physiologist to the advent of the man in whose phenomenal personality may be seen all the distinctive traits of modern medicine, and the range of whose mighty intellect has had few, if any, equals since Aristotle. Hunter's influence on the profession of this continent, so deep and enduring, was exerted in three ways. In the first place, his career as an army surgeon and his writings on subjects of special interest to military men carried his work and ways into innumerable campaigns in the long French wars and in the war of Independence. Hunter's works were reprinted in America as early as 1791 and 1793. In the second place, Hunter had a number of most distinguished students from the colonies, among whom were two who became teachers of wide reputation. William Shippen, the first professor of anatomy in the University of Pennsylvania, lived with Hunter on terms of the greatest intimacy. He brought back his methods of teaching and some measure of his spirit. With the exception of Hewson and Home, Hunter had no more distinguished pupil than Philip Syng Physick, who was his house surgeon at St. George's Hospital, and his devoted friend. For more than a generation, Physick had no surgical compeer in America, and enjoyed a reputation equalled by no one save Rush. He taught Hunterian methods in the largest medical school in the country, and the work of his nephew (Dorsey) on surgery is very largely Hunter modified by Physick. But in a third and much more potent way the great master influenced the profession of this continent. Hunter was a naturalist to whom pathological processes were only a small part of a stupendous whole, governed by law, but which could never be understood until the facts had been accumulated, tabulated, and systematized. By his example, by his prodigious industry, and by his suggestive experiments he led men again into the old paths of Aristotle, Galen, and Harvey. He made all thinking physicians naturalists, and he lent a dignity to the study of organic life and re-established a close union between medicine and the natural sciences. Both in Britain and in Greater Britain he laid the foundation of the great collections and museums, particularly those connected with the medical schools. The Wistar-Horner and the Warren museums originated with men who had been greatly influenced by Hunter. He was, moreover, the intellectual father of that interesting group of men on this side of the Atlantic who, while practicing as physicians, devoted much time and labor to the study of natural history. In the latter part of the last century and during the first thirty years of this, the successful practitioner was very often a naturalist. I wish that time permitted me to do justice to the long list of men who have been devoted naturalists and who have made contributions of great value. Benjamin Smith Barton, David Hossack, Jacob Bigelow, Richard Harlan, John D. Godman, Samuel George Morton, John Collins Warren, Samuel L. Mitchell, J. Aitken Meigs, and many others have left the records of their industry in their valuable works and in the transactions of the various societies and academies. In Canada many of our best naturalists have been physicians, and collections in this city testify to the industry of Holmes and McCullough.

I was regretting the *humanities* a few minutes ago, and now I have to mourn the almost complete severance of medicine from the old natural history. To a man the most delightful recollections of whose student life are the Saturdays spent with the preceptor who had a Hunterian appetite for specimens—anything from a trilobite to an acarus—to such a one across the present brilliant outlook comes the shadow of the thought that the condition of progress will make impossible again such careers as those of William Kitchen Parker and William Carmichael McIntosh.

Until about 1820 the English profession of this continent knew little else than British medicine. After this date in the United States the ties of professional union with the old country became relaxed, owing in great part to the increase in the number of home schools, and in part to the development of American literature. To 1820 one hundred and fourteen native medical books of all kinds had been issued from the press, and one hundred and thirty-one reprints and translations, the former English, the latter few in number and almost exclusively French (Billings).

Turning for a few minutes to the condition of the profession in Canada during this period, I regret that I cannot speak of the many interesting questions relating to the French colonies. With the earliest settlers physicians had come, and among the Jesuits, in their devoted missions, there are records of *donnés* (laymen attached to the service) who were members of the profession. One of these, René Goupil, suffered martyrdom at the hands of the Iroquois.[3]

Between the fall of Quebec in 1759 and 1820, the English population had increased by the settlement of Upper Canada, chiefly by United Empire Loyalists from the United States, and after the war of 1812 by settlers from the old country. The physicians in the sparsely settled districts were either young men who sought their fortunes in the new colony or were army surgeons who had remained after the Revolutionary War or the war of 1812. The military element gave for some years a very distinctive stamp to the profession. These surgeons were men of energy and ability who had seen much service, and were accustomed to order, discipline, and regulations. Sabine, in his "History of the Loyalists," refers to the Tory proclivities of the doctors, but says that they were not so much disturbed as the lawyers and clergymen. Still a good many of them left their homes for conscience' sake, and Canniff, in his "History of the Profession in Upper Canada," gives a list of those known to have been among the United Empire Loyalists.

The character of the men who controlled the profession of the new colony is well shown by the proceedings of the medical board which was organized in 1819. Drs. Macaulay and Widmer, both army surgeons, were the chief members. The latter, who has well been termed the father of the profession in Upper Canada, a man of the very highest character, did more than any one else to promote the progress of the profession; and throughout his long career his efforts were always directed in the proper channels. On looking through Canniff's most valuable work, one is much impressed by the sterling worth and mettle of these old army surgeons who in the early days formed the larger part of the profession. The minutes of the medical board indicate with what military discipline the candidates were examined, and the percentage of rejections has probably never been higher in the history of the province than it was in the first twenty years of the existence of the board.

One picture on the canvas of those early days lingers in the memory, illustrating all the most attractive features of a race which has done much to make this country what it is to-day. Widmer was the type of the dignified old army surgeon, scrupulously punctilious and in every detail regardful of the proprieties of life. "Tiger" Dunlop may be taken as the very incarnation of that restless roving spirit which has driven the Scotch broadcast upon the world. After fighting with the Connaught Rangers in the war of 1812, campaigning in India, clearing the Sangur of tigers—hence his sobriquet "Tiger"—lecturing on medical jurisprudence in Edinburgh, writing for Blackwood, editing the *British Press* and the *Telescope*, introducing Beck's "Medical Jurisprudence" to English readers, and figuring as director and promoter of various companies, this extraordinary character appears in the young colony as "Warden of the Black Forest" in the employ of the Canada Company. His life in the backwoods at Gairbraid, his "Noctes Ambrosianæ Canadensis," his famous "Twelve Apostles," as he called his mahogany liquor-stand (each bottle a full quart), his active political life, his remarkable household, his many eccentricities—are they not all portrayed to the life in the recently issued "In the Days of the Canada Company?"

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[3] Parkman, "Jesuits in North America."

Turning now to the second period, we may remark in passing that the nineteenth century did not open very auspiciously for British medicine. Hunter had left no successor, and powerful as had been his influence it was too weak to stem the tide of abstract speculation with which Cullen, Brown, and others flooded the profession. No more sterile period exists than the early decades of this century. Willan (a great naturalist in skin-diseases) with a few others saved it from utter oblivion. The method of Hippocrates, of Sydenham, and of Hunter had not yet been made available in everyday work.

The awakening came in France, and such an awakening! It can be compared with nothing but the renaissance in the sixteenth and seventeenth centuries, which gave us Vesalius and Harvey. "Citizens" Bichât and Broussais led the way, but Laennec really created clinical medicine as we know it to-day. The discovery of auscultation was only an incident, of vast moment it is true, in a systematic study of the correlation of symptoms with anatomical changes. Louis, Andral, and Chomel extended the reputation of the French school, which was maintained to the full until the sixth decade, when the brilliant Trousseau ended for a time a long line of Paris teachers whose audience had been world-wide. The revival of medicine in Great Britain was directly due to the French. Bright and Addison, Graves and Stokes, Forbes and Marshall Hall, Latham and Bennett were profoundly affected by the new movement. In the United States Anglican influence did not wane until after 1820. Translations of the works of Bichât appeared as early as 1802, and there were reprints in subsequent years, but it was not until 1823 that the first translation (a reprint of Forbes's edition) of Laennec was issued. Broussais' works became very popular in translations after 1830, and in the journals from this time on the change of allegiance became very evident. But men rather than books diverted the trend of professional thought. After 1825 American students no longer went to Edinburgh and London, but to Paris, and we can say that between 1830 and 1860 every teacher and writer of note passed under the Gallic yoke. The translations of Louis' works and the extraordinary success of his American pupils, a band of the ablest young men the country had ever seen, added force to the movement. And yet this was a period in which American medical literature was made up largely of pirated English books, and the systems, encyclopedias, and libraries, chiefly reprints, testify to the zeal of the publishers. Stokes, Graves, Watson, Todd, Bennett, and Williams furnished Anglican pap to the sucklings, as well as strong meat to the full-grown. In spite of the powerful French influence, the text-books of the schools were almost exclusively English.

In Canada the period from 1820 to 1860 saw the establishment of the English universities and medical schools. In Montreal the agencies at work were wholly Scotch. The McGill Medical School was organized by Scotchmen, and from its inception has followed closely Edinburgh methods. The Paris influence, less personal, was exerted chiefly through English and French channels. The Upper Canada schools were organized by men with English affiliations, and the traditions of Guy's, St. Bartholomew's, St. Thomas's, St. George's, and the London Hospital, rather than those of Edinburgh, have prevailed in Toronto and Kingston.

The local French influence on British medicine in Canada has been very slight. In the early decades of the century, when the cities were smaller and the intercourse between the French and English somewhat closer, the reciprocal action was more marked. At that period English methods became somewhat the vogue among the French; several very prominent French Canadians were Edinburgh graduates. Attempts were made in the medical journals to have communications in both languages, but the fusion of the two sections of the profession was no more feasible than the fusion of the two nationalities, and the development has progressed along separate lines.

The third period dates from about 1860, when the influence of German medicine began to be felt. The rise of the Vienna school was for a long time the only visible result in Germany of the French renaissance. Skoda, the German Laennec, and Rokitansky, the German Morgagni, influenced English and American thought between 1840 and 1860, but it was not until after the last date that Teutonic medicine began to be felt as a vitalizing power, chiefly through the energy of Virchow. After the translation of the "Cellular Pathology" by Chance (1860) the way lay clear and open to every young student who desired inspiration. There had been great men in Berlin before Virchow, but he made the town on the Spree a Mecca for the faithful of all lands. From this period we can date the rise of German influence on the profession of this continent. It came partly through the study of pathological histology, under the stimulus given by Virchow, and partly through the development of the specialties, particularly diseases of the eye, of the skin, and of the larynx. The singularly attractive courses of Hebra, the organization on a large scale in Vienna of a system of graduate teaching designed especially for foreigners, and the remarkable expansion of the German laboratories combined to divert the stream of students from France. The change of allegiance was a deserved tribute to the splendid organization of the German universities, to the untiring zeal and energy of their professors, and to their single-minded devotion to science for its own sake.

In certain aspects the Australasian settlements present the most interesting problems of Greater Britain. More homogeneous, thoroughly British, isolated, distant, they must work out their destiny with a less stringent environment than, for example, surrounds the English in Canada. The traditions are more uniform, and of whatever character have filtered through British channels. The professional population of native-trained men is as yet small, and the proportion of graduates and licentiates from the English, Scotch, and Irish colleges and boards guarantees a dominance of Old Country ideas. What the maturity will show cannot be predicted, but the vigorous infancy is full of crescent promise. On looking over the files of Australian and New Zealand journals, one is impressed with the monotonous similarity of the diseases in the antipodes to those of Great Britain and of this continent. Except in the matter of parasitic affections and snake-bites, the nosology presents few distinctive qualities. The proceedings of the four Intercolonial Congresses indicate a high level of professional thought. In two points Australia has not progressed as other parts of Greater Britain. The satisfactory regulation of practice, so early settled in Canada, has been beset with many difficulties. Both in the United States and in Australia the absence of the military element, which was so strong in Canada, may in part at least account for the great difference which has prevailed in this matter of the state license. The other relates to the question of ethics, to which one really does not care to refer, were it not absolutely forced upon the attention in reading the journals. Elsewhere professional squabbles, always so unseemly and distressing, are happily becoming very rare, and in Great Britain, and on this side of the water, we try at any rate "to wash our dirty linen at home." In the large Australian cities, differences and dissensions seem lamentably common. Surely they must be fomented by the atrocious system of elections to the hospitals, which plunges the entire profession every third or fourth year into the throes of a contest in which the candidates have to solicit the suffrages of from 2,000 to 4,000 voters! Well, indeed, might Dr. Batchelor say, in his address at the fourth Intercolonial Congress, "It is a scandal that in any British community, much less in a community which takes pride in a progressive spirit, such a pernicious system should survive for an hour."

Of India, of "Vishnu-land," what can one say in a few minutes? Three thoughts at once claim recognition. Here in the dim dawn of history, with the great Aryan people, was the intellectual cradle of the world. To the Hindoos we owe a debt which we can at any rate acknowledge; and even in medicine many of our traditions and practices may be traced to them, as may be gathered from the most interesting "History of Aryan Medical Science," by the Thakore Sahib of Gondal.

Quickly there arises the memory of the men who have done so much for British medicine in that great empire. Far from their homes, far from congenial surroundings, and far from the stimulus of scientific influences, Annesley, Ballingall, Twining, Morehead, Waring, Parkes, Cunningham, Lewis, Vandyke Carter, and many others, have upheld the traditions of Harvey and of Sydenham. On the great epidemic diseases how impoverished would our literature be in the absence of their contributions! But then there comes the thought of "the petty done, the vast undone," when one considers the remarkable opportunities for study which India has presented. Where else in the world is there such a field for observation in cholera, leprosy, dysentery, the plague, typhoid fever, malaria, and a host of other less important maladies? And what has the British government done towards the scientific investigation of the diseases of India? Until recently little or nothing, and the proposal to found an institute for the scientific study of disease has actually come from the native chiefs! The work of Dr. Hankin and Professor Haffkine, and the not unmixed evil of the brisk epidemic of plague in Bombay, may arouse the officials to a consciousness of their shortcomings. While sanitary progress has been great, as shown in a reduction of the mortality from 69 per mille before 1857 to 15 per mille at present, many problems are still urgent, as may be gathered from reading Dr. Harvey's Presidential Address and the "Proceedings of the Indian Medical Congress." That typhoid fever can be called the "scourge of India" and that the incidence of the disease should remain so high among the troops point to serious sanitary defects as yet unremedied. As to the prevalence of the venereal disease among the soldiers an admission of 500 per mille tells its own tale.

On reading the journals and discussions one gets the impression that matters are not as they should be in India. There seems to be an absence of proper standards of authority. Had there been in each presidency during the past twenty years thoroughly equipped government laboratories in charge of able men, well trained in modern methods, the contributions to our knowledge of epidemic diseases might have been epoch-making, and we should have been spared the crudeness which is evident in the work (particularly in that upon malaria) of some zealous but badly trained men.

In estimating the progress of medicine in the countries comprising Greater Britain, the future rather than the present should be in our minds. The strides which have been taken during the past twenty years are a strong warrant that we have entered upon a period of exceptional development. When I see what has been accomplished in this city in the short space of time since I left, I can scarcely credit my eyes; the reality exceeds the utmost desire of my dreams. The awakening of the profession in the United States to a consciousness of its responsibilities and opportunities has caused unparalleled changes, which have given an impetus to medical education and to higher lines of medical work which has already borne a rich harvest. Within two hundred years who can say where the intellectual center of the Anglo-Saxon race will be? The mother country herself has only become an intellectual nation of the first rank within a period altogether too short to justify a prediction that she has reached the zenith. She will probably reverse the history of Hellas, in which the mental superiority was at first with the colonies. At the end of the next century, ardent Old World students may come to this side "as o'er a brook," seeking inspiration from great masters, perhaps in this very city; or the current may turn towards the schools of the great nations of the south. Under new and previously unknown conditions, the Africander, the Australian, or the New-Zealander may reach a development before which even "the glory that was Greece" may pale. Visionary as this may appear, it is not one whit more improbable to-day than would have been a prophecy made in 1797 that such a gathering as the present would be possible within a century on the banks of the St. Lawrence.

Meanwhile, to the throbbing vitality of modern medicine the two great meetings held this month, in lands so widely distant, bear eloquent testimony. Free, cosmopolitan, no longer hampered by the dogmas of schools, we may feel a just pride in a profession almost totally emancipated from the bondage of error and prejudice. Distinctions of race, nationality, color, and creed are unknown within the portals of the temple of Æsculapius. Dare we dream that this harmony and cohesion so rapidly developing in medicine, obliterating the strongest lines of division, knowing no tie of loyalty but loyalty to truth—dare we hope, I say, that in the wider range of human affairs a similar solidarity might ultimately be reached? Who can say that the forges of time will weld no links between man and man stronger than those of religion or of country? Some Son of Boer, touched with prophetic vision, piercing the clouds which now veil the eternal sunshine of the mountain-top—some spectator of all time and all existence (to use Plato's expression)—might see in this gathering of men of one blood and one tongue a gleam of hope for the future, of hope at least that the great race so dominant on the earth to-day may progress in the bonds of peace—a faint glimmer perhaps of the larger hope of humanity, of that day when "the common sense of most shall hold a fretful 'world' in awe." There remains for us Greater Britons of whatsoever land, the bounden duty to cherish the best traditions of our fathers, and particularly of the men who gave to British medicine its most distinctive features, of the men, too, who found for us the light and liberty of Greek thought—Linacre, Harvey, and Sydenham, "those ancient founts of inspiration" and models for all time in literature, science, and practice.

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Tincture of Monsonia in Dysentery

Monsonia, an annual plant belonging to the Geraniaceæ, is commonly used in the treatment of dysentery in South Africa. Dr. J. Maberly, of Birmingham (*Med. Week*, V, p. 132), who was for some time in practice in the Transvaal, near Johannesburg, used this drug with the greatest success in about a hundred cases. The whole plant, including the flower-tops of either M. ovata or M. Burkei, was used in the preparation of an alcoholic tincture. The root, however, seems to be very nearly inactive and should not be employed.

Under the influence of this tincture, in doses of from 8 to 15 gme. every four or six hours, the symptoms of dysentery improved more rapidly than under any other treatment, more rapidly in particular than with ipecacuanha administered after the Brazilian method. The effects appeared also to be equally good in acute and in chronic cases. Out of ten patients who were suffering from chronic dysentery, nine recovered and one died. This was a child, whose death was the result of coma, coming on in consequence of the extreme weakness produced by the prolonged intestinal affection, the dysentery itself having already been cured by the drug.

Dr. M. found that tincture of monsonia cured acute dysentery, on an average, within two days, chronic dysentery within eight or ten days. This tincture, therefore, appears to exert a specific action on the morbid agent of dysentery. It is also, apparently, a sedative in all abdominal pain, having proved successful in calming, to a considerable extent, the violent pain caused by chronic inflammation of the uterine adnexa.

F.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

JOSEPH P. WINSTON, M.D., GEORGE E. WEST, M.D.,
W. J. ROBINSON, M.D., L. SCHÖNEY, M.D.

A Case of Death from Purulent Peritonitis

Dr. Joseph McFarland (*Med. Bul.*, Vol. XIX, No. 8) reports a case of death resulting from perforation of a tubercular ulcer of the intestine. At the autopsy the organs of the chest were found abnormal, as were also most of the organs of the abdomen. In the small intestine, about eight inches above the cecum, a single ulcer, about the size of a five-cent piece, was found. This ulcer was sharply excavated, and extending through the mucosa, denuded the muscularis. At the center it suddenly deepened into a perforation, through which a grain of wheat might have passed. The mucous membrane surrounding the margins of the ulcer was infiltrated and elevated. The inner edges showed some irregularly rounded projections, probably composed of tubercles. Near this ulcer an infiltrated area, the size of a split pea, was found. It probably consisted of an infiltrature of newer tubercles.

The large intestine was without pathological changes. The vermiform appendix was normal.

The interesting features of the case are the existence and advanced character of the single tuberculous lesion, the perforation of the ulcer, and the absence of the characteristic features of the tubercular ulcers. Upon the serous surface there were no visible tubercles, and no lymphatic tuberculosis radiating from the margins of the ulcerated area. The appearance of the lesion was more that of a typhoid than a tubercular ulcer. V.

Acute Dilatation of the Stomach

According to Dr. H. W. Bettmann (*Gaillard's Med. Jour.*, Aug., 1897), so little that is definite has been written on this subject that the term "acute dilatation" has come to signify different conditions to different authors, much confusion therefore existing. The attention of practitioners was directed to the subject by Hilton Fagge, who reported two striking cases in 1873. The first case was thus summarized by Fagge: Acute dilatation of the stomach, with paralysis of its muscular coat supervening upon a retroperitoneal abscess communicating with the duodenum; use of the stomach-pump; evacuation of seven pints of fluid; return of the stomach to its natural dimensions and seat; death from exhaustion. The post-mortem examination showed that the pylorus was unobstructed; there was no trace of peritonitis; about half a pint of a greenish fluid was found in the stomach, which was of a normal size. The second case, which is far more interesting and instructive, occurred under the care of Dr. Rees, in 1870. The patient, a male, aged 30, was in the wards of Guy's Hospital. Very suddenly, he began to vomit; palpation of the stomach elicited a loud splash. Urine was secreted in very small quantities, being removed with the catheter. On the third day he had two stools after an enema. The vomiting continued unabated, the vomited matter being a greenish fluid. The temperature became subnormal, the pulse very rapid, and on the evening of the third day the patient died of exhaustion. When the abdomen was opened on the post-mortem table, the stomach was found to fill the whole abdomen, the intestines being crowded into the pelvis. The liver, kidneys, intestines, and heart were healthy. During its removal from the body the stomach was wounded. Thin greenish fluid escaped, and the stomach returned to its normal size. From these two cases and others previously reported the following conclusions were drawn: 1. Acute dilatation of the stomach may arise in young subjects, in whom the organ has been apparently healthy. The actual process of enlargement is probably more or less gradual. At first it produces no symptoms, but when these occur they are sudden in onset and very violent, and may lead to death in a few days. 2. Towards the end the abdomen is unsymmetrically distended, the left hypochondrium is full, the right hypochondrium is flattened; the course of the lesser curvature can be followed from the left hypochondrium downward and to the right. There are fluctuation and splashing in the hypogastrium. The prevailing percussion-note over the tumor is tympanitic. 3. The symptoms are those of collapse. The vomiting at first is persistent; several quarts of fluid may be evacuated; the vomiting may cease entirely, the stomach becoming over-distended (compare the urinary bladder). The urine is scanty; no absolute constipation exists. 4. The necropsy reveals a stomach enormously distended. The stomach may return to its normal size after removal, showing no graver lesions than slight lacerations of the muscular coat (compare the striæ gravidarum). 5. The stomach-pump may save the life of the patient. After its use the stomach may regain its normal size. In the winter of 1895 Bettmann had the opportunity of observing a case of acute dilatation of the stomach, which, in every respect except the outcome, resembled the cases cited above. The case was one occurring during convalescence from typhoid fever. In giving the history of the case in detail the author submits that there could be no question as to the diagnosis. The very violent and incessant vomiting, the condition of collapse, the distension of the abdomen, the nature of the vomited material, all were very characteristic. The disappearance of abdominal distension after lavage confirmed the diagnosis. The regular spontaneous movements of the bowels for several days, and the persistence of liver-dulness precluded the idea of a perforation, which was the first suspicion. Summing up, the following facts may be postulated: 1. During the course of a convalescence from some acute or chronic disease, the stomach may undergo rapid dilatation. 2. This condition is marked clinically by violent and sudden onset; violent and intractable is the vomiting; large quantities of fluid are ejected; the fluid is usually greenish, due to admixture of bile. The patient is reduced to a state of collapse or exhaustion, which may prove fatal in a few days. 3. During the progress of the disease the abdomen becomes distended, the right hypochondrium remaining flattened. The bowels move spontaneously, and a splash may be elicited over the site of the distension. The mind usually becomes clouded. 4. If treatment is unsuccessful the distension of the abdomen increases, vomiting ceases, and the patient dies of exhaustion. 5. The indications for treatment are, first, supportive measures; second, the use of the stomach-tube one or more times as early in the case as possible. Rectal feeding should be resorted to, and nothing should be allowed by the mouth, until the vomiting has been nearly, or quite controlled. 6. Treatment without lavage is unavailing, and the use of narcotics worse than useless. L.

Cystic Goiter Treated with Dilute Hydrofluoric Acid

Dr. B. Ghosal read a paper before a recent meeting of the Calcutta Medical Society (*Indian Lancet*), in which he related the history of a case in which hydrofluoric acid was used with successful results. The patient was a woman, 45 years old, who was suffering from a tumor which had been growing for two years on the anterior aspect of the neck. There was dysphagia with slight dyspnea. The tumor was situated on the left side of the throat, and was about the size of an orange. The skin over it was tense and shining; it was freely movable and blue veins crossed it. The larynx and the trachea were pushed to the right, and the esophagus was pressed upon. There was a feeling of fluctuation. The patient was dyspeptic, but her general condition was fair.

The author advised an operation for the removal of the tumor, but this was objected to, so he put the patient on a treatment of potassium iodide and arsenic internally, and mercury iodide locally. This was continued for two weeks without any effect. The author then prescribed dilute hydrofluoric acid, 10 minims, with 3 minims of Donovan's solution, three times a day, after meals. After a week the tumor seemed less tense and smaller. The dose of hydrofluoric acid was gradually increased to half a drachm three times a day. At the end of two months the tumor was found to have diminished to the size of a small areca-nut, and in two weeks more it had entirely disappeared. F.

Intestinal Peristalsis and Paralysis

Byron Robinson (*Langedale's Clinic*, August) says that excessive or irregular intestinal peristalsis occurs among hysterical and neurasthenic persons, the same person being repeatedly liable to it. It is recognized by a gurgling, splashing, or rumbling noise in the abdomen, there being no diarrhea accompanying; the person suffers no unpleasant sensations, except the mental annoyance. It has no special connection with mealtime or drinking. In women it is apt to be more active at the menstrual period. Mental influences seem to play a rôle, for when the subject directs the mental energies away from the phenomenon the gurgling generally ceases. If the abdominal walls be thin one can observe the intestinal movements which are confined chiefly to the small intestines. The trouble may persist for weeks and normal stools continue during the whole time. It seems characteristic of certain persons to have repeated attacks, and the author has observed such in certain persons at certain times when the mental faculties were either on a sudden tension or embarrassed. Enterospasm is a condition of the bowel in which the longitudinal or circular muscular layers are in a state of excessive contraction, likely to occur in very limited segments of bowel. Primarily, it is a motor neurosis, but is frequently combined with reflex sensory factors inducing severe pain. As a result irregular constipation arises, the stool being either long retained or forcibly expelled. It may owe its origin to the misuse of cathartics, entrance of lead into the system, mental effects, worms or improper use of foods. Hydrotherapy, massage, galvanization of the abdomen and remedies profoundly affecting the olfactory nerves, aid in bringing about normal bowel-peristalis. The bromides, arsenic, iron and nux vomica are valuable adjuncts. Regulation of the diet is of first importance. The treatment of enterospasm consists of opium and evacuents, in addition to that of the foregoing. Finally, paralysis in peritonitis is due to edema of the bowel-wall and the pressure of exudates on the peripheral nerve-apparatus; the circulation is obstructed. L.

Asystoly and the Cheyne-Stokes Respiration

That uremia is not always the cause of Cheyne-Stokes respiration is seen in two cases of chronic myocarditis of Merklen, in the *Gaz. des Hôpitaux*, 1897, 22 and 23. In one case the respiratory symptoms arose after digitalis had remedied the uremic symptoms and had partly remedied the irregularity of the heart. The second case followed after an attack of pleuro-pulmonary congestion in an alcoholic. The respiratory symptoms appeared late in the disease and a cure was effected. In both cases the respiratory symptoms arose after the use of digitalis, and particularly in the second case, disappeared upon the use of morphine. J.

On a New Symptom in Myocarditis

De Renzi has noted in the *Revista clinica e teraputica*, 1879, 2, that in cases of myocarditis if pressure be made over the heart-region a marked increase in the force of the heart-action is observed. The pulse is also markedly increased in strength. This symptom is much more pronounced in such cases than is to be found in the normal condition. J.

On the Modern Neglect of Leeching in Practice

Sir Dyce Duckworth (*Liverpool Med. Chir. Jour.*) is exceedingly sorry that such a useful weapon as leeches has been allowed to drop out of our therapeutic armamentarium, almost completely.

A common view is that local blood-letting is generally unnecessary, and can be dispensed with in favor of some analgesic or antipyretic drug; further, that bleeding is a lowering and devitalizing process, and has no power in modifying the inflammatory conditions as now explained by the modern laboratory pathologist. Familiarity with local blood-letting enables the author to deny these assertions, and an ounce of practice is worth a pound of theory. He believes that ophthalmic surgeons still testify to the beneficial use of leeching in early inflammatory conditions. For acute pain such as ushers in acute pleurisy, pericarditis, and peritonitis, from any cause, there is no remedy so certain to afford prompt relief as local leeching. We may thus often withhold opium, and leave other symptoms to declare themselves without the masking effects of this drug. Two or three leeches will often accomplish this result, and the blood lost hardly exceeds one ounce. In early typhlitis we may resort to this practice, and in many local forms of painful pelvic peritonitis.

In cases of cardiac dilatation in an advanced stage, with hepatic and general venous engorgement, leading to respiratory distress and gastro-enteric symptoms the application of half a dozen leeches to the epigastrium brings prompt relief sooner than any other remedies the author is acquainted with. M.

Exercise and Carbonated-brine Baths in the Treatment of Chronic Heart-disease

Dr. Satterthwaite (*Post-Grad.*, July) details the methods employed in treating chronic heart-disease at Nauheim, Germany, and in addition the treatment of a number of cases by this method, by himself. The author had at his disposal the imported Nauheim salts and "mutterlauge," the uncrystallized liquid remaining over after the manufacture of salt at the works. This "mutterlauge" is especially strong in calcium chloride, which is known to be a very important ingredient of the Nauheim waters. The author's baths were carbonated by means of an apparatus, consisting of a steel drain of about twenty-five gallons' capacity, containing the liquid carbonic acid, with a pressure-regulating gauge, charging hose and mixers designed to receive the gas and water, and mix them intimately on their way to the tub. The dial on the gauge enabled the operator to charge the bath with the precise proportion of carbonic-acid gas required, whether ½ per cent., 1 per cent., or more.

For those who wish to improvise a bath by simpler methods, another plan may be adopted. To generate the gas, solid discs or tablets of acid sulphate of soda and powders of bicarbonate of soda are used. After the bath has been prepared with Nauheim salts, or if such be not procured, with common or sea salt, the powders are dissolved in the water and then the discs or tablets. The evolution of gas will last for from twenty to thirty minutes. To get a 1-per-cent solution in a fifty-gallon bath, one should take about five pounds of common or sea salt. The strength of the salt bath as commonly employed at Nauheim, is from 2 to 3½ per cent.

Three cases are cited in detail; one of cardiac hypertrophy, mitral regurgitation, and aortic obstruction; a second, of cardiac hypertrophy, aortic obstruction and insufficiency; a third, of cardiac hypertrophy, mitral regurgitation, and irritable heart. The temperature of the bath was about 95°, because a lower temperature was chilling. At first the duration of the bath was four minutes, at the end eight minutes. With the baths the usual resistant exercises were given. During treatment the pulse fell from 100 to 68 in the first case, it subsequently, after returning home and resuming his professional work, varying from 72 to 80. The second case did not do so well, the pulse being reduced to but 84, the contraction of the heart not being uniformly progressive. There were remissions, it being the experience of the author that while under this treatment the contraction is gradually progressive. There are intermissions or even retrogressions or relapses in its course at occasional intervals. In the third case the pulse was reduced from 92 to 73. The course of treatment lasted four weeks, usually, the first week being merely one of preparation, the baths being taken for three weeks, usually. The author feels that a new era in cardiac therapeutics is introduced. Cases of enlarged hearts with valvular lesions, and neurosis with cardiac manifestations yield most readily, while cases with marked dropsy, venal or pulmonary complications are to be avoided.

L.

Spontaneous Intestinal Anastomosis

In the *Can. Jour. of Med. and Surg.* (Vol. II, No. 1) there are recorded two unique cases in which, according to all rules the patients ought not to have lived, and in which complete recovery nevertheless took place.

Case No. 1 is that of a boy, 18 years old, who had been constipated for several days, and had then taken some calomel and colocynth pills, which purged him very violently. He was taken with intense pain in the abdomen, great tenderness in the right inguinal region, hot skin, rapid pulse, etc. He was treated with hot poultices to the abdomen, and calomel and opium. Three weeks after the attack the patient passed a large quantity of dark liquid—a mixture of blood and feces—together with some unusual substance, about twelve inches in length. This substance, on examination, proved to be a portion of the small intestine, consisting of the lower part of the ileum, together with the ileo-cecal valve and appendix. Convalescence was satisfactory, and the patient is now in excellent health.

Case No. 2 is that of a woman of 40, who fell down, striking her left side against a box. She lost control of her bowels, passing feces involuntarily; besides she had severe pains in abdomen, passed blood and mucus, and presented all the signs of acute enteritis. About a month after the beginning of her illness she passed over a yard of her small intestine, and felt much relieved. Two days later she passed another portion of intestine, half a yard long, and since then she had perfect control of her bowels, and recovered rapidly.

The question is: How did the several portions of intestine become anastomosed?

M.

Dyspeptic Cirrhosis of Liver

Dr. Emile Boix, of Paris (selection *Virg. Med. Semi-Monthly*, July 9), in summarizing his studies on the "Liver of the dyspeptic, and particularly the cirrhosis produced by autointoxication of gastro-intestinal origin," draws the following conclusions:

1. Alcohol is not everything in the etiology of cirrhosis of the liver. Its pathogenic rôle demands a searching inquiry, which a long term of years can alone bring to a successful termination. In fact, it is indispensable that the condition of the alimentary canal should be carefully investigated with those suffering from cirrhosis, and an attempt made to ascertain if, with them, fermentations of gastro-intestinal origin do not give rise to the production of substances which are endowed with properties both irritating and toxic to the liver.

2. Entirely independent of the alcoholic habit, we frequently encounter a pathological condition of the liver with dyspeptics which is manifested by increase of the size of this organ—it is the dyspeptic liver.

3. This increase in size is temporary or permanent. Temporary, with frequent returns, it constitutes the hepatic congestion, noticed for a long time by various authors, and especially by M. Bouchard. Permanent, it is the dyspeptic cirrhosis.

4. This dyspeptic cirrhosis (described for the first time in this work) is manifested: clinically, by an enlarged liver, smooth, remarkably hard (like wood), without increase in size of the spleen, without icterus, ascites,

or development of the collateral abdominal circulation; histologically, by a diffused generalized cirrhosis, inter- and intra-lobular, with mono-cellular tendency, with relative integrity of the hepatic cells.

5. The duration of such an affection is very long—ten years and more—the size of the liver remaining about the same. The termination, may take place, as in the atrophic cirrhosis of Lœnnee, by exaggeration of the mechanical interference and production of ascites and enlarged abdominal veins, and also by terminal infection. The prognosis is then, as always, connected with the condition of the hepatic cells.

6. Among the toxic substances which are elaborated in the alimentary canal, we must consider the acids of fermentation as possessing a marked sclerogenic action—butyric, lactic, valerianic, and especially acetic acid. As to the coli-toxin, it is probable that it also has a sclerosing action upon the liver, unless it reaches this organ in an amount sufficient to destroy rapidly the hepatic cells.

7. We must also take into consideration the predisposition most frequently created by the gouty diathesis (arthritisme, Hanot).

8. Dyspeptic cirrhosis can only be confounded with cancer of the liver, from which it is distinguished by its very long duration; or with a large lithiasic liver, which is most frequently accompanied by icterus; or with an enlarged alcoholic liver, with which we will ordinarily find a large spleen, and very soon ascites and enlargement of the subcutaneous abdominal veins.

9. The treatment should be especially addressed to the digestive functions. Intestinal antisepsis will be of very great assistance, and will give very satisfactory results, especially in the congestive forms. Calomel, in the dose of one centigram, may be successfully prescribed. L.

The Management of Pneumonia Patients

Dr. Baruch (*Gaillard's Med. Jour.*, April, 1897) is of the opinion that the most effective therapeusis is evolved only from the most thorough comprehension of the nature of the disease; that pneumonia is, like typhoid fever, an infectious disease whose chief attack is upon the nervous system, manifested by heart-failure and other signs; that treatment should be applied, not to the disease, but to the patient, whose resisting capacity should be enhanced by all useful remedial agencies; that calomel in a large dose, followed by wet compresses, adapted in duration and temperature to each case, with fluid diet, and an abundance of water internally, aided, if need be, by mild alcoholic stimulation and hypodermics of strychnine, offer at the present time the most favorable, yet not perfect, results in the management of patients suffering from pneumonia. L.

Mitral Stenosis

Mitral stenosis as a primary condition without other lesion of the circulatory system is comparatively rare. Its rareness led the author, P. Dalche, in the *Gaz. des Hôpitaux*, 1897, 32, to describe one occurring in a woman of 45 years of age. All of the common etiological factors were absent and the condition seemed to be a primary sclerotic affection of the valves. J.

Diabetes—Its Treatment

Dr. Edward L. Munson (*Jour. of Am. Med. Assoc.*, May 15, 1897) believes:

1. Sugar is always present in the blood.

2. The absence of carbohydrates from the diet does not cause a disappearance of the blood-sugar. Hence sugar must have some other source than the carbohydrates ingested.

3. This other source of sugar is the ingested and systemic albumin elaborated through a process of decomposition.

4. An increased albumin-decomposition, due to the rigid enforcement of a purely nitrogenous diet, means an increased metabolism, and consequent loss of body-weight. Hence the cutting off of carbohydrates from the diet directly produces an increased metabolism.

5. *Vice versa*, the administration of carbohydrates retards metabolism.

6. The diabetic has an especial predisposition toward metabolism.

7. The diabetic has by no means lost the power of burning sugar; therefore, sugar must, even more than in health, be allowed, in order to prevent loss of weight and muscular weakness, which may result in one of the natural endings of diabetes, death by asthenia.

8. The abnormal albumin-metabolism, which is especially produced by rigid proteid diet, results in the production of toxic bodies.

9. The depressed nervous condition of the diabetic is especially favorable for the action of these bodies.

10. The production of toxic bodies is prevented or retarded by the administration of carbohydrates. Hence carbohydrates should be administered to the diabetic to prevent the formation of certain toxic bodies and the severe and often fatal nervous and cerebral symptoms which they induce. O.

PEDIATRICS

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DE FOREST, M.D., H. T. HOTCHKISS, M.D.

Serum as a Prophylactic in Diptheria

According to the *Settimana Medica*, Pansini (*Rivista di Igiene*, VIII, No. 1) used antitoxin as a prophylactic during an epidemic of diphtheria in Baricella (a little town in Italy). The disease affected fifty-eight children in a few days, and five of them succumbed to the disease notwithstanding the serum-therapy. The epidemic was severe, and it was not checked in spite of the most careful hygienic precautions.

Two hundred and sixty children were treated with serum as a prophylactic means; and only two of them were attacked by diphtheria, one after forty, and the other after sixty days, and the disease showed so little virulence that it ceased without any special treatment.

The non-treated children were but one-fifth of the treated ones, nevertheless fifteen new cases of diphtheria arose among them.

The 260 treated chidren were all between 1 and 12 years of age. The dose of serum employed was 100 J. U. for children less than 2 years old, 200 J. U. for children between 2 and 8, and 300 J. U. for children between 8 and 12. The prophylactic treatment was never followed by any unpleasant complication. W.

Constipation in Infants

The *Therap. Gaz.* (Vol. XXI, No. 6) has an abstract on the subject from the *Jour. des Prat.* (Jan. 9, 1897), of which the following are the most important points. We are first to assure ourselves that no umbilical or other hernia exists, and that there is no prolapse of the rectum or anal fissure. Other important factors are heredity and conformation of the intestines.

Children of gouty parents frequently suffer from atonic bowels, and in other cases the intestines and abdominal wall seem to be so relaxed as to predispose to this condition. The employment of sterilized milk also favors constipation, and the administration of farinaceous articles too early in life, by provoking dyspeptic troubles, may either result in diarrhea or constipation. The question of modifying the diet of the child, therefore, is of very great importance. If old enough to receive vegetable substances, Graham bread, which leaves a large residue; the ordinary vegetables, such as string-beans and peas, and from time to time mild laxative substances, such as manna or cascara, should be given. Frequent exercise in the open air is also a necessity. Very frequently the addition of a little sugar will prevent sterilized milk from being so constipating. Massage of the abdominal area gently applied for a number of minutes morning and night, the skin being rendered oily by the use of vaselin, is also a method which is not to be forgotten. During the massage the fingers should knead the intestines as much as possible. Castor-oil and magnesia, while active in moving the bowels, tend to produce constipation to a greater degree after their effects have passed off, although the author believes that calcined magnesia is a useful substance to overcome dyspepsia and to move the bowel in certain cases. In other instances suppositories and rectal injections produce the best results, particularly suppositories that are made of glycerin. M.

The Dangers from Blisters

M. Comby reports an instance which should be a warning against the use of cantharidal vesication in children (*Jour. of Med. and Sci.*, Vol III, p. 314). The symptoms suggested the existence of meningitis, stiffness of the neck, agitation, delirium, and anuria. Auscultation showed only a few insignificant râles. The temperature was 102.2° F., and the anuria was almost total. These symptoms disappeared after a run of fever and convalescence was established. C.

Gastro-intestinal Disturbance in a Child Caused by Its Mother's Milk

Jour. de clin et de Thérap. Inf. (No. 34 p. 679, 1897) cites a case reported by M. J. Babeau in *Montpellier Médical.*

The nurse, whose milk continuously caused intestinal disturbances in her children, had had three children at term, none of which could be nourished at her breast because each nursing was followed by vomiting which no medicine could allay, nor any regulation of nursing prevent. The vomiting ceased only when bottle-milk or the milk of another nurse was substituted.

When she nursed other children, previously free from intestinal disturbances, the same phenomena were produced in them, evidently due to some faulty ingredient or composition of the milk. She was in excellent health, presented no previous pathological history, and had no infectious diseases, nephritis, alcoholism, lead- nor mercury-poisoning.

Analysis showed a quantity of albumin much above normal (especially lactoalbumin).

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Melancholia Treated with Opium

Dr. Lillian J. Muckols (*Med. Rec.*, Vol. 51, No. 25) says that in her practice in the Illinois Hospital for the Insane, opium has proved the most remarkably efficient remedy. She prefers the deodorized tincture of opium, giving it in doses of from 15 to 20 m., gradually increasing until the maximum dose of 40 or 60 minims is given three or four times a day. Occasionally there are cases in which it is necessary to administer the drug more often, say 15 minims every two hours. As improvement takes place the opium is gradually withdrawn. Notes of three very grave cases of melancholia agitata are appended, in which this treatment effected a complete cure, two patients gaining twelve and fifty-four pounds respectively. M.

Treatment of Hystero-epilepsy

J. E. Forfar, of Toronto (*Dung. Coll. and Clin. Rec.*, 1897), offers the following summary: 1. Loosen tight clothing and secure fresh air, having placed the patient in the horizontal position. 2. If the jaw is locked, give enema of yolk of egg and two ounces of asafetida in a half-pint of warm water. 3. If possible, fill the mouth of the patient with common salt. 4. Bring the head over the side of the bed, and drench with cold water. 5. Regulate the bowels by laxatives and enemas. 6. Do not draw off the water until compelled to. 7. Use faradic battery when necessary for paralysis. 8. Do not deride your patient nor treat her as a malingerer. 9. Get patient away from over-anxious, hypersympathetic, and over-assiduous parents and relatives—under the management of a firm, kind nurse, who is capable of giving massage, sponging, etc. 10. For anesthesia of parts use faradic brush. 11. Attend to any uterine or ovarian disorder. 12. Give bromides, valerian, asafetida and spts. ammon. co. 13. Keep the patient on milk diet as much as possible. 14. Resort to hypnotism when practicable. 15. Chloroform, nitrite of amyl, and ammonia may be used with discretion. 16. Interfere carefully with respiration by placing the hand over the mouth and nose. 17. Charcot makes pressure over the ovarian region. 18. Order the patient some useful and pleasant occupation for mind and body, with a change of scene and surroundings. 19. Avoid alcoholic stimulants; improve the blood and digestion with tonics. 20. Increase menses by hot sitz-baths, aloetic purgatives, iron, arsenic, etc. 21. Avoid any strain of mind—worry, study, reading, etc. L.

Syphilitic Athetosis

Prof. Strübing writes (*Arch. f. Derm. u. Syphil.*, XXXIII, 3) that athetosis occurs in syphilis during the tertiary stage, when the cerebral substance is severely affected, and then it is to be considered as closely related to the post-hemiplegic form. But it may occur during the secondary stage as an independent neurosis, analogous to the epilepsy and chorea of the secondary stage, and then the prognosis is favorable. The author describes such a form of hemiathetosis in a girl 19 years old, in whom this symptom developed a few months after infection. The movements in the arm, in the metacarpo-phalangeal joint and in the wrist-joint were so severe and incessant, that the patient was incapacitated for work. Anti-syphilitic treatment of six weeks' duration resulted in a perfect cure. M.

Hypnotic Suggestion in Insanity

Dr. Thomas Basett Keyes (*Pacific Med. Jour.*) considers the treatment of insanity by hypnotic suggestion, and formulates the following conclusions:

1. Therapeutic hypnotic suggestion cannot be substituted as a general means of cure owing to the difficulty of hypnotizing the insane.

2. Hypnosis is easily effected with the hysterical and epileptic, and consequently succeeds with them most readily.

3. The most certain results of hypnotic therapeutic suggestion have, up to the present time, been obtained in hysteric and dipsomaniac psychoses.

4. Hypnotic suggestion may be employed when the insane submit to it of their own accord and derive benefit from it. The physician should use it with great caution and take account of the hurtful effects which, in certain cases, may be produced.

5. Therapeutic suggestion made in the waking state is the most reliable and effective means of cure in mental disease, and to it almost solely are due the beneficial effects of the asylum.

6. In cases of melancholia without delirium, cases of fixed ideas, cases of alcoholism and in slight forms of stupor, suggestion methodically repeated in the waking state, in order to combat the morbid phenomena, may prove effectual.

6. In chronic forms of paranoia, suggestion has never given favorable results, owing, perhaps, to the difficulty of hypnotization. B.

SURGERY

William B. Coley, M.D., Jarvis S. Wight, Jr., M.D.,
David M. Stabler, M.D.

Gall-stones Formed around Silk Sutures

That gall-stones of considerable size can be formed in a comparatively short time is proven by Dr. John Hornans, of Boston (*Ann. Surg.*, Vol. XXVI, No. 1, p. 114), who reports a case in which he operated for gall-stones, in April, 1895, and completely emptied the gall-bladder. He at first sutured the gall-bladder, but later cut the stitches, and sutured the open bladder to the peritoneum. Some of the silk sutures must have fallen back into the bladder, for the symptoms returning, a second operation was performed January 18, 1897, or twenty months after the first operation. Seven calculi were found, about the size and shape of lima beans, attached in dumb-bell fashion to the silk ligature. T.

The Passing of Plaster

Dr. E. A. Tracey (*Virg. Med. Semi-Monthly*, June 25) believes that plaster of Paris as a routine means of surgical fixation is doomed, and that its wane will be rapid, because of its inherent defects and of the advantages possessed by its rival—wood-fiber splinting.

The following objections to the plaster-of-Paris treatment are offered:

1. It is futile to expect the immobilization of limbs swathed in soft and compressible cotton by a rigid bandage outside the cotton. Supposing fixation to be efficient at first, it is soon destroyed by subsidence of swelling, and later, by tissue-atrophy that always takes place in an idle limb.

2. It is destructive of the functions of injured joints by preventing the timely application of passive motion to them.

3. Plaster dressing prevents the surgeon's ready inspection of the parts treated—a condition not tolerated in any ordinary wound, and which, for as grave reasons, should not be tolerated in fractures. On the other hand, facts are presented relative to the wood-fiber treatment of fractures, as follows:

1. Wood-fiber is adaptable to the treatment of fractures of all the limbs, it being mouldable directly upon the patient's limb.

2. It produces immobilization of the parts because moulded directly upon them and retained thereon, without the intervention of cotton batting, which defeats our object, if it be fixation. This efficient immobilization is easily maintained by keeping the roller-bandage snugly applied over the resilient splint; thus subsidence of swelling, or tissue-atrophy, need not interfere with the fixation produced by wood-fiber.

3. It permits the surgeon to inspect at any time the fracture he is treating, by the simple unwinding of a roller-bandage. The reapplication of the splinting is easy—there being no pad or compresses to become disarranged.

4. This ready removal of the splinting permits the timely application of passive motion to an injured joint.

5. Wood-fiber splinting is lighter than any other; no complaint is heard from the patient because of its weight—even in cases where the hip and knee are both immobilized.

6. Wood-fiber is strong, rigid, and durable—splints made from it having been worn in some cases (hip-fixation) for eleven months. The material is clean, porous and does not irritate the skin. In many cases splints have been worn for weeks immediately in contact with the skin, without excoriation.

7. No padding is required in wood-fiber splints. This is important, for it is hard to comprehend how plaster of Paris or other material can produce immobilization of the bones in a limb swathed in cotton batting.

8. Wood-fiber material permits of rigid antisepsis in the treatment of compound fractures, both of the wound, always accessible by removal of the bandages, and also of the splint-material, by moistening it with a strong solution of corrosive sublimate. Plaster of Paris, as ordinarily applied, is neither aseptic nor antiseptic.

9. The mastery of wood-fiber splinting readily comes to one possessing a modicum of mechanical ability.

The wood-fiber is made in large sheets, of two thicknesses, to serve all kinds of splinting. A splint-blank can be cut from a sheet of the material, moistening it with water, and bandaging the moistened splint form over the part to be splinted. L.

Vinegar in Surgery

Dr. Evan O'Neill Kane (*Railway Surgeon*, Vol. IV, No. 3, 1897) states that from clinical observations up to the present date, he feels perfectly safe in saying that he can recommend vinegar as equal in practical antiseptic power to a 1-2000 bichloride-solution, and far superior in its freedom from toxic properties. That if it is at all irritating to the tissues, which he has so far failed to ascertain, it is less so than mercury, is also true. It stimulates the healing process in open wounds instead of retarding it, as the bichloride-solutions sometimes do.

Under dressings freely saturated with

vinegar, granulations build up rapidly, become firmer and finer than before its use, while the discharge is greatly lessened. He diluted it from one-half to three-fourths with sterilized water, and rendered it saline. When not too far diluted it possesses the additional advantage, if used during an operation, of reducing the free capillary flow by the exerting of its astringent property.

Vinegar possesses another property not found in any other safe, effective antiseptic: the probable power of its fumes to retard or check septic decomposition.

Two pieces of fresh beef of equal size, off the same cut, were placed in separate closed tin boxes two feet square. One contained only the meat; in the other box was placed a cup filled with vinegar. Every two days both specimens were inspected. It was not until the fifth day that decomposition began. Then it was not in the meat about which the air was impregnated with the fumes of vinegar. This specimen remained sweet, and but for a slight covering of mold, unaltered for the two weeks during which the experiment lasted. The other piece of beef soon became putrid, but without the same covering of mold. Practically the same results were obtained with other readily decomposed organic substances.

The author suggests that vinegar sprayed or sprinkled upon floors and walls may prove valuable as an atmospheric disinfectant for operating-rooms and surgical wards. If the fumes of vinegar can prevent septic decompositon of raw meat, cannot it have equal power to check or prevent outbreaks of gangrene or erysipelas in crowded or ill-ventilated hospital wards? May it not be wise to make free use of this in the lying-in room, to prevent puerperal septicemia, or whenever, in operating, the peritoneum is exposed to the atmosphere.

V.

An Ischiatic Crutch Used in Place of an Artificial Limb

Dr. A. B. Judson presented a boy, 9 years of age, to the section in Orthopedic Surgery, New York Academy of Medicine (May 21, 1897), who was wearing an ischiatic crutch instead of axillary crutches, or an artificial limb. Amputation had been performed below the knee after a railroad accident. The case illustrated the comfort and ability which this apparatus was able to secure in the treatment of those affections of the lower extremity which require that the weight of the body be removed from the affected limb. This use of the skeleton of the pelvis was not a new thing. Ischiatic support was a feature of Dr. Fayette Taylor's hip-splint described in 1867. In fact the long hip-splint was an ischiatic crutch with the added function of traction. In the instrument shown the crutch consisted of an upright steel piece adjustable in length, to meet the growth of the patient, with an India-rubber crutch-tip at the foot and a semi-circular pelvic band, carrying a single perineal strap. It also had a shoulder-strap which transferred the weight of the splint to the opposite shoulder, a steel knee-piece, restraining the limb antero-posteriorly and a webbing-strap above the knee. There was no customary leather strap surrounding the splint and the ankle because the lower part of the leg was absent. Although the stump was flexed in walking there was no possibility of anchylosis interfering with the subsequent use of an artificial leg because the knee was free from inflammation, which necessarily preceded anchylosis. The apparatus was easily provided with a joint at the level of the knee, and this was desirable in convalescent hip-disease, in case the limb was so long as to be inconvenient if constantly extended.

B.

A Case of Phosphorus-necrosis

Dr. Theodore A. McGraw (*Physician and Surgeon*, Vol. XIX, No. 5) reports that a man, aged 39, had worked for years in a match-factory. In June he had a tooth extracted on account of decay. He had no trouble from the latter until the end of September, when he began to have a pain in the left side of the jaw. As the pain increased in severity the jaw became swollen from the formation of abscesses. They were opened and drained, with no relief, but an increase in the severity of the pain and swelling. On January 4 the left side of the face and neck was enormously swollen, a fetid discharge running from the mouth and outside openings, and a very pale, anemic, and exhausted patient. He was taken to St. Mary's Hospital and operated upon. The jaw was found entirely denuded on the left side from symphysis to joint. It was sawed through in the middle and then peeled out without any trouble. This was a case of phosphorus-necrosis, not uncommonly found in persons suffering from decayed teeth or recently extracted teeth, who are employed in match-factories. This patient is rapidly recovering.

V.

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According to the *Philadelphia Polyclinic* (Vol. VI, p. 328) a solution of morphine in collodion painted over the region affected will often relieve the intense pain attendant on herpes zoster.

C.

EYE, EAR, NOSE, AND THROAT

JOHN C. LESTER, M.D., HEBER N. HOOPLE, M.D.,
VINCENT GOMEZ, M.D., WM. C. BRAISLIN, M.D.

Valuable Method of Treating External Eye-affections

Dr. B. Biélovsky (*Med. Week*, V, p. 203), a Russian ophthalmologist, has been using the sozoiodole compounds on a large scale of late, and finds that they render signal service in the treatment of quite a variety of ocular affections.

In simple acute conjunctivitis he applies cocain first, and then drops a 6-per-cent. solution of sozoiodole-zinc or a 10-per-cent. solution of sozoiodole-sodium; compresses soaked in a solution containing 1 per cent. of sozoiodole-zinc, and from 1 to 2 per cent. of boric acid, are then applied over the eyes, and the cure is obtained in from six to eight days. The same treatment also proves efficacious in cases of chronic conjunctivitis.

In cases of gonnorrheal ophthalmia, Dr. B. has had recourse with success to washing the conjunctival culs-de-sac with a 4-per-cent. solution of sozoiodole-mercury; iced compresses soaked in the same solution were then applied to the eyes.

Phlyctenular conjunctivitis, with intense vascular injection, was similarly treated, after instillation of cocain and atropin, with 2-, 4- or 6-per-cent. solutions of sozoiodole-zinc, or with 1- or 2-per-cent. solutions of sozoiodole-mercury. When the phlyctenulæ were particularly large, they were at first anesthetized by cocain and then cauterized with a 5- to 10-per-cent. solution of sozoiodole-mercury, applied by means of a small pledget of cotton twisted round a probe or pointed stick. By these means the inflammation and the pain rapidly subsided, and the duration of the disease was much shortened.

In cases of trachoma, after cocain had been applied, the eyelid was everted and the granulations crushed with the nail of the right thumb or index-finger; the mucous membrane was then rubbed with powdered sozoiodole-zinc, and instillations of boric-acid water with 4 per cent. of cocain prescribed. On the following day, the false membrane which had formed on the conjunctiva was washed off with warm-water irrigations, and instillations prescribed with a solution of from 6 to 10 per cent. of sozoiodole-zinc, or of 2-per-cent. of sozoiodole-mercury, alternately with applications of a 2-per-cent. cocain-solution. After two or three days the granulations were crushed again, and sozoiodole-zinc applied a second time. With this treatment the trachoma was generally cured in three weeks.

Dr. B. also treated some cases of dacryocystitis after incision and dilatation, by washing out of the lachrymal cul-de-sacs with a 1- or 2-per-cent. solution of sozoiodole-zinc. In cases of parenchymatous keratitis, of hypopyon, and of diphtheritic conjunctivitis, he injected beneath the conjunctiva a 1:10000 solution of sozoiodole-mercury. These injections—two divisions of the hypodermic syringe suffice for each injection—are both preceded and followed by instillations of a 5-per-cent. solution of cocain; they are less painful than injections of corrosive sublimate, and at the same time appear to exert a more powerfully curative action. F.

Infectious Conjunctivitis

Coppez (*Soc. Belge d'Ophthal.*) gives the following classification: The gonococcus may cause purulent, catarrhal, granular, or pseudo-membranous conjunctivitis. Week's bacillus may cause catarrhal and pseudo-membranous forms. The pneumococcus may cause catarrhal, phlyctenular, purulent, granular, and pseudo-membranous forms. The streptococcus may cause lachrymo-catarrhal, pustular, and pseudo-membranous forms. Staphylococci may be responsible for catarrhal, purulent, phlyctenular, and pseudo-membranous conjunctivitis; and the Klebs-Löffler bacillus for catarrhal and pseudo-membranous. B.

Remarks on the Exploratory Puncture of the Maxillary Sinus and the "Serous Affection" of This Cavity

G. Krebs, in *Archiv. für Laryng. und Rhinol.*, Band 4, Heft 3, inquires whether the exploratory puncture of the antrum of Highmore is quite harmless. The procedure is employed chiefly in cases of nasal suppuration, in order to discover the source. Asepsis in the nose being impossible, a healthy antrum may become affected. A number of cases in which operative measures in the nose have led to suppuration in the antrum have been described, although there is no instance on record, to the author's knowledge, in which exploratory puncture of the antrum led to its infection. He regards as suspicious, however the reference of Noltenius to "an almost clear serous fluid which subsequently became cloudy and then purulent;" also Grünwald's statement that in some cases he explored the antrum four times before he found pus. Grünwald holds that exploratory puncture with a negative result proves nothing. The author, on the other hand, points out that in antral empyema pus is always present in the cavity, so that when exploratory puncture yields a negative result we have conclusive proof that the antrum is unaffected.

While surgical principles point to the inferior meatus as the proper place for perforating when we have the treatment of the antrum in view, the author reminds us that for exploratory purposes the middle meatus is better suited, owing to the thinness of the wall.

In consequence of frequent trial puncture, a new form of disease has appeared—the "serous affection" of the antrum, as described by Noltenius. Since the publication of this writer's paper, the author has found serous contents in the antrum in two cases. In both there was empyema of the frontal sinus of the same side. As none of the subjective or objective symptoms could be attributed to this "serous affection," it was not treated. In both cases, after a week, the antrum was again punctured, and found empty. In one of the patients this procedure was repeated a year later, with a similar negative result. B.

One Hundred and Fourteen Cases of Mastoid Involvement Complicating Acute Middle-ear Suppuration

Dr. John E. Sheppard (*Med. News*, April 24, 1897) gave an analysis of the cases cited above.

As to the symptomatology there were: Discharge from the ear in all of the 114 cases; pain (spontaneous) in 102; tenderness, either of the whole or some portion of the mastoid, most frequently the apex, in 101; posterior superior perforation of the membrana tympani in 52, of which 17 were distinctly pouting or teat-like; tinnitus of all kinds 56, of which 44 were described by the patients as being pulsating in character, the terms used by them being "puffing," "blowing," "beating," "hammering," etc.; drooping or bulging of the posterior superior canal-wall, into the lumen of the canal in 36, in 12 of which it was bulged so much as to obstruct entirely a view of the membrane. There was swelling over the mastoid, with or without a pushing of the auricle out from the side of the head, in 22 cases, in nearly all of which the swelling was present when first seen by the author.

The cases reported included 65 males and 49 females. Of these the youngest was 2 months, the oldest 75 years. Of the 114 cases, 27 occurred between the ages of 20 to 30 years. Under 1 year 8; over 75 years 2.

Out of the whole number of cases the result was unknown in 25; recovery took place without operation in 26; recovery (both ears affected) without operation in 8; operation followed by recovery in 46; operation (both ears) followed by recovery in 4. total number of deaths, 5.

The writer summarizes thus:

1. For opening the mastoid the gouge or chisel has been invariably used, excepting only those cases in which the cortex was so much softened as to make the sharp curette more applicable.

2. For clearing out the mastoid, sharp curettes were used for the outer, blunt curettes for the deeper portion.

3. Grippe, outside of the acute affections of the nose and nasopharynx, due to cold, etc., has played the most important rôle in the etiology.

4. The symptoms are important in about the following order: (*a*) Pain, either in the mastoid, or in some part of the affected half of the head; (*b*) tenderness, either of the whole, or of some part of the mastoid (oftenest of the apex); (*c*) drooping, or bulging of the posterior superior canal-wall into the lumen of the canal, especially if this is near the membrane; (d) posterior superior perforation of the membrane, especially if pouting or teat-like; (*e*) pulsating tinnitus, when it continues as a marked symptom after the time it should have ceased, were the case one of simple middle-ear inflammation; (*f*) the external symptoms—redness and edema of the mastoid, and pushing outward of the auricle.

5. Abortive measures should be employed in a majority of cases for from two to five days, and will, as the author's cases show, be successful in curing a fair proportion of all cases.

Having failed to give relief after the judicious use of abortive treatment, Dr. S. believes the following may be justly given as the remainder of his conclusions:

6. We must time and again operate on the strength of one or two symptoms, and often with even these only slightly marked.

7. If a patient is seen before the external manifestations of mastoiditis have developed, we should never wait for their appearance, because by so doing we give the pus the same opportunity for breaking through the internal, as through the external mastoid cortex, the patient's life being meantime jeopardized to just that extent.

8. The operation, if performed with due care, is relatively free from danger. Danger to the patient arises, not from the operation, but from delay in performing it.

9. Finally, the author's case makes him believe that a pretty safe general rule would be, when in doubt, operate. B.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M.D., HOMER E. FRASER, M.D.

Herpes Zoster

Dr. Olaf Fride, in the *Norst Mag. for Lageordenskub*, p. 1125, 1896, reports a case of zoster in which the entire right side of the face and neck was affected. After the eruption had lasted for about ten days there suddenly developed right-facial-nerve paralysis, which gradually subsided after three or four weeks under the use of the galvanic current. S.

Keratosis

Professor v. Mibelli-Parma, in the *Monat. für prak. Derm.*, Band XXIV, No. 7, considers the etiology and varieties of keratosis.

Modern dermatologists recognize that important changes of the follicles and glands of the skin occur in various inflammatory skin-diseases. Inflammatory outbreaks frequently appear about the follicles.

If we picture the glands and hair-follicles as so much skin-district, webbed with veins, one can readily see how a simple disturbance of the circulation from inflammations, exudations, etc., makes these follicles an exceedingly favorable site for the development of independent lesions.

Keratotic changes are nearly always accompanied by diseased conditions of the entire skin.

Unna is quoted as saying that acne begins with a primary hyperkeratosis, which develops into funnel-shaped depressions of the hair-follicles, these form comedones. It seems that no one has either affirmed or contradicted this theory. S.

Treatment of Pruritus Vulvæ

P. Ruge, in the *Zeit. für Gebertshulfe und Gynak.*, Bund XXXIV, p. 355, considers the treatment of this disorder. In cases where some general process is the cause, such as diabetes, etc., little if any benefit is derived from local measures, the only relief obtained must come from the treatment of the underlying disease. He advised that all cases of pruritus vulvæ should be carefully examined for some local cause, either in the vagina or vicinity.

He, with Sänger, doubts the existence of a so-called essential pruritus, but considers some primary disease of the vulva to be the sole cause. The treatment consists of thoroughly disinfecting the whole genital canal. Ruge uses antiseptic soaps, and then applies a rather strong bichloride-solution to both the vulva and vagina. After doing the above sufficiently to insure the removal of all pathogenic germs, he applies a 3- or 4-per-cent. ointment of carbolated vaselin. The ointment should be applied with the fingers and not by brushes or instruments. This method of treatment has never failed in his hands, and is strongly recommended in all obstinate cases. S.

Multiple Gangrene of the Skin

Hintner, in *Archiv. für Derm. und Syph.*, Band 38, Heft 2, gives the report of another case of multiple gangrene of the skin. The patient was a girl 21 years of age, nervous and anemic. After a slight injury to the left hand from a burn a stinging pain was felt in the left arm first, then gradually extending over the whole body. The arm rapidly covered with vescicles, eschars formed which fell off after some time. On other parts of the body the lesions presented a different character; the blebs were filled with serum and blood and excoriated, after rupturing, by granulation.

There were a number of outbreaks, the trouble lasting over a year.

Hintner concludes that the nervous system plays an important rôle in this disease. S.

Lineæ Albicantes

Osler (*Montreal Med. Jour.*, April, 1897) reports two cases of this cutaneous atrophy. The first was a young girl who had a number of bluish bands from 1 to 2 ctm. in length, and from 5 to 2 in width, situated about the knees and thighs. The spots were first noticed during convalescence from scarlet fever, which had occurred about four years previously. According to the statement of the patient the spot became red and felt itchy when she was out of sorts; in cold weather the color became much darker. The second case occurred in a young, stout, and well-nourished Hebrew. The atrophic lines were situated along the sides of the abdomen; they felt like fissures of the skin. After some general comment on the subject Dr. Osler reviews the differential diagnosis. There appear to be three different groups.

1st. Those due to abdominal enlargement, pregnancy, increase of fat, etc.

2d. Post-febrile atrophy, frequently such after typhoid. Here the lines are apt to be situated about the thighs and shoulders.

3d. Those of idiopathic origin. These are seen in both men and women and may be on the knee, thigh, abdomen, or elbow. S.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

Value of Flushing and Subsequent Drainage of the Peritoneal Cavity after Ovariotomy

W. A. Merideth (*Lancet*, June 5, 1897) reports seven fatal cases after 250 operations. Four deaths were due to kidney-disease, one pneumonia, one shock, and one hemorrhage from rupture of pyloric ulcer. No fatal cases occurred from sepsis. Three cases died from torsion of the pedicle of the cysts.

In 84 per cent. of the cases the temperature did not go above 100.5° F. In two cases the temperature marked 103° F. The writer believes his good results have been largely due to flushing of the peritoneal cavity, without drainage, leaving a part of the water in the cavity. For his method he claims the following advantages: The temperature of the water prevents oozing and clotting, promotes absorption, thereby increasing urinary secretion, its bulk restores the balance of intraperitoneal pressure, thus promoting recovery from shock; by gravitation into the pelvis displaces the intestines and prevents formation of adhesions, diminishes friction and irritation of the opposing surfaces. This method is contraindicated in cases of intraperitoneal sepsis occurring before operation. K.

Case of Retention of Urine Simulating Pregnancy at Term

Dr. G. M. Boyd (*Am. Gyn. and Obstet. Jour.*, Vol. X, No. 6) reports a case of a Mrs. R., multipara, 43 years, who was brought to the hospital in an ambulance.

The patient on admission received the usual preparatory treatment, and was taken to the delivery-room for examination. From her size she appeared pregnant at term. The abdomen was distended and so painful to the touch that palpation was impossible. Both legs were swollen, painful and edematous. On examining the patient nothing could be felt except a fullness due apparently to a cystic tumor which displaced the cervix. A small amount of urine was voided in this examination, due probably to pressure on the urethra. The patient's condition showed evidence of acute uremia; her pulse, strong and full, headache, disturbance of vision, dyspnea, and pain about heart. Dr. Stratton, the resident physician, deciding that this tumor was not in the uterus, passed a catheter, and to her surprise, after removing four quarts, the urine was still running as freely as at the beginning. This amount withdrawn relieved the distended bladder, and it was considered wise to wait until the bladder accommodated itself before drawing off more urine. In eight hours the patient desired to urinate but could not do so; the catheter was passed and three quarts removed; in another eight hours three and a half quarts more were drawn off by catheter but the bladder still was not emptied.

The tumor with each catheterization diminished in size, and the edema of the extremities, vulva and hypogastric region, rapidly disappeared. At the end of twenty-four hours the bladder was empty for the first time. Total amount of urine drawn off three gallons and three quarts—500 ounces. In the second twenty-four hours she voided by catheter five quarts, viz., 170 ounces. In the third twenty-four hours by catheter three quarts, viz., 101 ounces. She regained control of the bladder on the fourth day and voided without assistance in twenty-four hours 63 ounces. Since then she has had no polyuria, the amount voided each day being 45 ounces.

An analysis of urine made by Mr. F. A. Sherret proved it to be the normal urinary secretion of a low specific gravity. V.

A Six Months' Child That Lived Sixteen Hours after Birth

Dr. Myles Purvin, Brooklyn, N. Y., in a communication to the AM. MED.-SURG. BUL., says: On July 27, 1897, I was called to attend a multipara 25 years of age, pregnant for six months. At eleven o'clock the night preceding my first visit she was attacked with severe abdominal pain and hemorrhage. This condition continued all night, until six o'clock the following morning, when I was called. On my arrival I made a hasty vaginal examination and found a mass presenting at the inferior strait. The patient at this time was not bleeding profusely, but was complaining of the pains. With one uterine contraction, the mass, which proved to be the membranes with the fetus and liquor amnii therein contained, was completely expelled. After obtaining complete contraction of the uterus, I rapidly dissevered the fetal membrane, lifted out the fetus, and tied the umbilical cord. I then endeavored to resuscitate the new-born by artificial respiration, application of hot and cold water, and of alcohol, slapping the child vigorously, all to no avail. After laboring an hour I was about to give up in despair, when I thought of a method described by McLane, of New York, in his lectures, of blowing in the child's mouth, so as to expel any mucus there may have been in the larynx. After several forced expirations of air into the child's mouth, mucus in large quantities was expelled through the nose, with an immediate response, in the form of a deep inspiration, followed by a loud scream (expiration).

On closer examination of the child, the urethra of the penis was found to be entirely obliterated and the testicles were absent from the scrotum. There was present a rudimentary meatus urinarius, into which I endeavored to pass a probe, but without success. I left word with the nurse that special attention should be directed to the bladder, to ascertain whether the child urinated or not. Sixteen hours after its birth the child died.

The mother made a steadily progressive post-partum recovery. At no time after delivery did the temperature rise over 101°F. This rise of temperature I attributed to the condition of the breasts and bowel. Treatment of the breasts and bowel brought temperature down to normal, with no subsequent rise. During the post-partum period the pads receiving the lochia were at all times fresh and free from foul odors. On the tenth day the patient was sitting up.

Organotherapy in Carcinoma and Fibroids of the Uterus and in Ovarian Disease

In the *Med. Times and Hosp. Gaz.* (Nos. 1008-1010) Dr. Robert Bell relates his experience in the treatment of the above diseases with different gland-substances. He has treated a number of cases of carcinoma uteri with thyroid gland, and is highly enthusiastic about the results obtained. He says:

"Given a case of carcinoma which has invaded the cervix without having affected secondarily the surrounding structures, thyroid gland taken internally together with local treatment, by the curette if necessary, and afterward by a systematic application of ichthyol, conjoined with intra-uterine medication, the disease will disappear in the course of a few weeks. Even in advanced cases it will be noticeable that the disease is arrested, indicated by the cessation of the hemorrhage and offensive purulent discharge which previously had been present. But unfortunately, if the surrounding tissues have been invaded, the disease progresses and eventually proves fatal. Such, however, would be the case even if operation were resorted to, so that my position is no worse than that of the surgeon."

In different diseases of the ovaries he has employed parotid gland in conjunction with the constitutional and local exhibition of ichthyol, and the results have been uniformly and highly satisfactory.

In fibroid tumors of the uterus he has employed mammary gland with the same good results. He says:

"There can be little doubt that mammary gland, administered in from 5 to 10 grn. doses three times a day, has acted in a marvellously short time in promoting a speedy return to the normal condition. Menorrhagia and metrorrhagia, frequently accompanied by dysmenorrhea, have completely disappeared in the course of a few weeks, and when local treatment has simultaneously been adopted, the recovery has been proportionately rapid."

The Value of Quinine as an Oxytocic

Dr. H. A. Hare (*Am. Gyn. and Obst. Jour.*, June) made a report before the Philadelphia Obsterical Society concerning an investigation of the actual value of quinine as an oxytocic. It is evident from this report that the drug has no direct influence upon the uterus, but greatly increases the power of contraction by supporting the nervous system and also the general strength of the patient. It was shown that the drug is incapable of originating uterine contractions, and various explanations of the fact that abortions have occurred while quinine was administered were presented. The conclusion reached from the replies of the various obstetricians to whom the questions had been directed indicated that quinine was not so popular a remedy for uterine inertia as it was some years ago. One or two observers reported not only that the patients were annoyed by the ordinary symptoms of cinchonism, but that quinine distinctly increased the tendency to post-partum hemorrhage. The results of the report indicated that the drug should be given in full doses in such a form as to be quickly absorbed. The author does not believe quinine has any direct oxytocic influence. He believes that quinine acts as a general tonic to the system. When a woman's uterus becomes quiescent from inertia or otherwise, and she lies still for an hour, the pains would usually return at the end of that time if she took no drugs. If quinine had been given then the physician might readily conclude that the quinine brought the pains back again. L.

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Ointment for Chapped Hands

Steffen is credited with the following prescription (*Therap. Woch.*):

Menthol	0.6 gme.	(10 grn.)
Salol	1.25 gme.	(20 grn.)
Olive-oil	1.25 gme.	(20 min.)
Lanolin	45 gme.	(11 dr.)

Externally!

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

The Condition of the Uterine Mucosa during Menstruation

Upon the basis of researches made upon four uteri extirpated on the first, second, and fourth day of menstruation, Dr. L. Mandl (*Arch. f. Gyn.*, LII, 3, p. 557; *Schmidt's Jahrb.*, Bd. 254, p. 227) concludes that the epithelium covering the mucosa, as a whole, remains intact, though occasional foci are found where epithelial cells and even cells of the stroma are exfoliated. These cells can be detected in the mucus of the fundus. Restitution appears to take place by cell-division even during menstruation; at least mitoses of variable degree seem to indicate this, and the same nuclear phenomena can also be observed in the inter-glandular cells.

Biological Effects of Iodide of Phenylethylpyrazol Ammonium

Curci (*Suppl. al Policlinico*, Vol. III, No. 25) reports that the above compound produces ascendant nervous paralysis, which begins at the peripheral extremity of the motor nerves, like curare, and then affects the centers. It does not act on the muscular excitability. It increases the temperature for a while, then lessens it; and produces death in the mammifera by asphyxia. Acting on the inhibitory centers of the heart, it retards the pulse for a while. The arterial pressure increases at first, then decreases; the increase is due to the action on the bulbar vasomotor center, as it ceases when the medulla oblongata is destroyed.

When the pressure is low the vasomotor reflexes are abolished, which means that the vasomotor system is paralyzed. W.

Nasal Micro-organisms

Drs. Thompson and Hewlett, in *Arch. of Otol.*, XXIV, 3 and 4, conclude:

1. In all bacterioscopic investigations of the nasal fossæ a clear distinction must be made between the vestibule of the nose and the proper mucous cavity. The former is lined with skin, and is not part of the nasal cavity proper.
2. Contamination with the lining of the vestibule is difficult to avoid.
3. In the dust and crusts of the mucus and débris deposited among the vibrissæ of healthy subjects micro-organisms are never absent, and are usually abundant.
4. On the Schneiderian membrane, under normal conditions, micro-organisms are rarely even numerous, and in more than 80 per cent. of cases no organisms whatever are found, and the mucus is sterile.
5. The occurrence of pathogenic organisms must be so infrequent that their presence on the Schneiderian membrane can be regarded only as exceptional. O.

Excretion of Tannic Acid, Tannigen, and Tannalbin from the Animal Organism

As the result of a series of exact experiments upon man and animals, Dr. Rost (*Arch. f. expt. Path. u. Pharmakol.*, 1897, XXXVIII, p. 346) concludes that tannic acid and the tannic derivatives, tannigen and tannalbin, no matter in what form they are administered, are never excreted by the urine unaltered. On the contrary, they appear as gallic acid, and probably in the form of still unknown products of tannic acid. While tannic acid occurs in the feces only in its modified forms, tannigen is found partially unchanged in the feces of cats, and in the feces of man it is partially excreted as tannic acid. Tannalbin is found in the feces of cats unaltered or as tannic acid.

Toxins and Antitoxins

Calmette and Delande (*Ann. de l'Inst. Pasteur*, Paris, tome X, p. 12) suggest that immunity, whether natural or acquired, may be a physical and not a chemical phenomenon. They investigated the antitoxic properties of blood-serum from various animals, taking the reaction to doses of abrin, as the most frequent criterion. The following are some of their results:

1. The serum of animals, naturally refractory to certain toxins, has no action thereon *in vitro.*
2. Cold-blooded refractory animals can acquire immunity against fatal doses of toxin, their serum becoming antitoxic.
3. Antitoxic serum, or at least the active substance of certain antitoxic serums does not alter toxins when mixed with them *in vitro.*
4. Leucocytes may retain their antitoxic powers after being thrice washed free from serum.
5. Certain inactive substances, such as bouillon, or normal ox-serum (having no action on toxins), may, when injected into fresh animals, confer more or less perfect immunity upon them. The authors therefore think that immunity cannot be due to the presence of a chemical substance in the serum, having the power of altering the toxins; and, further, that it more probably results from a special property of the cells.

B.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D., DAVID M. STABLER, M D.

Benzoate of Soda in the Treatment of Grippe

According to *Med. News* no drug has given more favorable results in the treatment of *grippe* than benzoate of soda. It may be given in capsule or powder form, the usual dose being 10 grn., three or four times a day. When muscular symptoms are pronounced, the following combination acts admirably:

Sodii Benzoas	2 dr.
Salol	1 dr.
Phenacetin	36 gr.

M., and ft. chart No. xii. Sig.—One powder every four hours.

Fluid Extract Muira Puama

Rebourgeon, in a circular issued concerning this drug states that its source is Acanthea virilis Rebourgeon, as named by him, and that it belongs to the Acanthaceæ. Among the Brazilian physicians, Monteiro Baéna states the drug to be an analeptic; Almeida Pinto, an excitant and energetic aphrodisiac; Mello Moraés, a sovereign remedy in paralysis and dyspepsia; Peckholdt, an intestinal tonic in diarrhea. French physicians also state that its use is indicated ordinarily in neurasthenias, but particularly in digestive asthenia and in all forms of dyspepsia, as well as in sexual asthenia, uterine asthenia, as at the period of menopause, and in the asthenia of the circulation. The doses suitable for these purposes are from 15 to 20 drops of the fluid extract three to four times daily. The treatment may be prolonged for a considerable time, without any harmful by-effects being observed; nor is it necessary to increase the dose, the effect of the remedy on the nervous system not suffering any diminution by prolonged treatment. F.

New Indication for the Use of Tannalbin

Dr. L. Roemheld calls attention to the advantageous employment of tannalbin in diarrhea, consequent upon the exhibition of cod-liver oil. The writer states (*Münch med. Woch.*, No. 36, 1897) that he has used tannalbin in fifty cases where cod-liver oil, plain or phosphorized, caused persistent diarrhea, yet where it was necessary to employ these remedies on account of existing rachitis, etc. In these cases the exhibition of from 2 to 4 gme. of tannalbin immediately regulated the dejections, which became normal. By this means, children who could not bear the oil, were enabled to take it for months at a time. That the good effect was due solely to the tannalbin was clearly shown when the use of the remedy was suspended, a return of the diarrhea following immediately.

In conclusion the writer particularly recommends tannalbin to be given with phosphorized cod-liver oil, as its effects are absolutely certain and safe.

Extract Male Fern in Tapeworm

In a paper read before the Dutchess County Medical Society, Dr. J. S. Bird, of Hyde Park (*Albany Med. Ann.*, XVIII., p. 393), stated that he had obtained phenomenal results in the treatment of tapeworm by the use of Merck's extract of male fern. Of all the various preparations experimented with, this was the only one that invariably yielded positive results. The remedy was given inclosed in gelatin capsules, in doses varying from 45 to 60 drops, according to the age and condition of the patient. The method of treatment uniformly to be employed is recommended as follows:

The patient is to be directed to fast for twenty-four hours on beef-tea, or, if necessary, table-tea and toast; then two compound cathartic pills are to be taken, and on the following morning the male-fern extract inclosed in three gelatin capsules, one capsule being given at 7, one at 9, and the remaining one at 11 A. M., the last to be followed at 12 by an ounce of castor-oil and 1 drop of croton-oil. The castor-oil may be given in any palatable form desired, and may be replaced, if necessary, by two seidlitz powders or a dose of Rochelle salts.

This treatment had never proved a failure in the writer's hands.

Albuminuria Treated with Methylene-blue

Lemoine, of Lille, reports (*Therap. Gaz.*, XIII, p. 680) on the use of medicinal methylene-blue in albuminuria. He believes that it exercises a very beneficial influence upon the kidneys, particularly in cases of chronic nephritis. The dose which he gives varies from three to five grains a day.

The author cites a number of cases as illustrative of the good results which he has obtained from this treatment; and he claims that while there is a decrease in the albuminuria, there is apt to be an increase in the quantity of urea which is eliminated. In one case of chronic albuminuria with death due to erysipelas, the patient had been receiving methylene-blue for several days.

At the autopsy the kidneys were found enormously enlarged and contained cysts and gave evidence of sclerotic change. The methylene-blue had stained the secreting portions of the kidney, but the fibrous portions had retained their natural color. He believes that this is an indication of the fact that methylene-blue exerts a selective influence upon secreting epithelium of the kidney. He does not think that if pure methylene-blue is used there is any danger of it producing cystitis. Copious draughts of liquids should be taken in order to flush the kidneys and prevent the drug from irritating the stomach.

Zincohemol

The value of zincohemol has already been enlarged upon by Kobert and others. Recently, however, Cervello and Savoca (*Arch. di Farm. u. Terap.*, 1895, V, and *Deutsche med. Ztg.*, 1896, No. 26) have shown that zincohemol has the power, equally with the iron and copper hemols, to increase the quantity of hemoglobin in the blood, and that the increase was quite considerable, in many cases even double, while the bodily weight increased and the general condition was improved. After a while, the quantity of hemoglobin attains a maximum that remains almost constant. The zincohemol can be in various combinations, among which may be given the following:

Zincohemol	5 gme.
Extract Gentian	5 gme.

Make into 80 pills. Dose: 2 to 4 pills thrice daily.

In anemia and chlorosis:

Zincohemol	6 gme.
Extract Logwood	6 gme.

Make into 100 pills with glycerin and water. Dose: 2 to 4 pills 4 times daily.

In chronic diarrhea:

Zincohemol	5 gme.
Extract Valerian	5 gme.

Make into 80 pills. Dose: 2 to 3 pills thrice daily.

As a sedative nervine in chorea and hysteria. F.

Hyoscine in Angina Pectoris

Dr. W. W. Bostwick (*Med. Record*, p. 679) records a case of chronic endocarditis, resulting in extensive valvular lesions and accompanied by angina pectoris, in which the attacks first observed corresponded to the description given of true angina, were of moderate severity, and yielded to the usual remedies. The attacks later on became much more severe, until even doses of amyl nitrate (6 min.) repeated at short intervals by inhalation, and large doses of morphine (¾ grn.), and of nitroglycerin (1-30 grn.), hypodermically, even when supplemented by the use of chloroform, gave no relief. Acting upon a recently advanced theory, that angina pectoris was a neurosis of the sympathetic, an injection of 1-75 grn. of hyoscine hydrobromate was given. The effect was magical: in fifteen minutes the patient was relieved, and in half an hour she was sleeping quietly.

The dose, although rather large for one unaccustomed to the use of the drug, was not followed by any symptoms of intoxication. The pulse was accelerated to 90, the respirations were quickened to 20 per minute, and the pupils were dilated to a moderate extent. The temperature was not raised, and there was no dryness of the throat or loss of voice. The patient complained of slight dizziness, and there was a perceptible flushing of the face. F.

Chloralose, with a Report of Two Cases of Untoward Effects

Gairs, in the *Phil. Poly.* 1897, 18, reports upon the effects of chloralose as a hypnotic. His results would seem to show a great irregularity in the action of the drug, and the individual dose varies widely. Unpleasant after-effects were also experienced.

In two cases following 1.0 gme. doses, distinct spastic symptoms were manifested, after which the feeling of stupor came on.

J.

Beta-naphthalinsulphonic Acid as a Test for Albumin, Albumoses, and Peptones

Dr. E. Riegler, of Jassy, states (*Pharm. Centralh.*, XXXVIII, p. 379) that he has found beta-naphthalinsulphonic acid to possess the property of precipitating albumin, and without requiring any previous acidification of the latter. The acid is prepared by heating equal parts of naphthalin and sulphuric acid together at a temperature of 200° C. for several hours. It crystallizes in small scales soluble in water. For use as an albumin test, 10 gme. of the acid are vigorously shaken with 200 c.c. of distilled water, and then filtered, forming a colorless, very permanent solution. To detect the presence of albumin in urine, from 20 to 30 drops of the test solution are added to from 5 to 6 c.c. of the urine; an immediate cloudiness or precipitate indicates the presence of albumin, depending on the quantity of albumin present. The delicacy of the reaction is such that 1 part of albumin in 40000 parts of water still yields a clearly visible cloudiness. The precipitate caused by the acid does not disappear upon heating to the boiling-point. Albumoses and peptones are similarly precipitated, but the precipitates dissolve on heating, and reappear when the solutions cool.

Beta-naphthalinsulphonic acid may be employed as a general precipitant of albuminoids in all cases where other substances, such as trichloracetic acid, are used.

Oxidized Pyrogallol in Leprosy

Dr. P. Unna states (*Sem. méd.*, XVII, p. 58) that he recently had a case of leprosy, in which the use of oxidized pyrogallol caused a disappearance of all the visible manifestations of the disease. The remedy was employed externally in the form of an ointment applied to the leprous patches, and also internally, at first in the form of pills, then in emulsion, the dose being increased progressively from 0.01 gme. (1-16 grn.) singly up to 2.5 gme. (40 grn). per day. F.

Hematherapy, or Treatment with the Aid of Supplied Blood

Dr. J. T. Biggs, of Sound View Hospital, Stamford, Conn., reports in *Mod. Med. Science*, November, 1897, pp. 283 to 289, the results of a series of experiments with bovine blood in the treatment of ulcers, fistulæ, bullet-wounds, lacerations of cervix and perineum, anemia, necrosis, interstitial nephritis, and tuberculosis.

Case No. 1 was that of a German lady, aged 40, suffering from indolent, secondary specific ulcers of head and neck, in which there was immediate danger of one of the ulcers perforating the inner membrane of the chest-wall and exposing the pulmonary tissue to infection from the germ-laden air. She had been under treatment with a number of Boston physicians, but none of them succeeded in arresting the progress of the disease. Dr. Biggs continued alterative and antiseptic treatment, supplementing this with the use of bovinine frequently applied to the cavities of the ulcers at first in alternation with hydrogen peroxide, but later in gauze packs. At the time of the report the patient was free from danger, the ulcers filled with healthy granulations, and entire recovery soon expected, although the patient had to leave the hospital.

Case No. 2 was that of an American gentleman aged 39, with a large anal fistula, two and a half inches deep, of ten years' standing, a complete ring of hemorrhoids around the anus, hepatic torpor and chronic constipation. He was put on phosphate of soda in hot water night and morning, and a diet of bovinine, milk, and rice. The sphincter was divided through the fistula, sinus scraped, wound thoroughly irrigated with hot Thiersch solution, a modified Whitehead operation performed on the hemorrhoids, the wounds packed with sterilized gauze saturated with iodoform-bovinine, and two large ulcers an inch and a quarter from the anus treated with a 25-per-cent. solution of pyrozone. Six days later only pure bovinine was used in the packing. Before each dressing the wounds and ulcers were washed out with Thiersch and well cleansed by the bovinine-peroxide process. Thirteen days later the patient was "discharged absolutely well."

Case No. 3 was that of an Irishman aged 31, who had carried in the head of the tibia for two and a half years a bullet, which had caused great pain in and around the knee-joint. By the aid of a Röntgen-ray apparatus the ball was removed, the wound treated with antiseptics and bovinine. "A remarkable fact in this case," says the reporter, "was the wonderfully rapid filling-in of new bone by the topical blood-nourishment, occupying barely one week."

Sodium Sulphate in Vomiting

Dr. Hofrichter, in Lützelstein, states (*Aerzt. Rundsch.*, VII, p. 260) that by means of the following simple prescription he has been able to check vomiting, of whatever origin, but more particularly that due to disturbances of gastric, intestinal, or ovarian origin:

Sodium Sulphate	5 gme.
Aromatic Tincture	3 gme.
Syrup	15 gme.
Water, to make	200 gme.

Dose : One spoonful.

For young children, the quantities of sodium sulphate and aromatic tincture may be reduced, while the 5 and 3 gme. respectively of the salt and tincture are best not exceeded for adults. The mixture is considered to be particularly beneficial, since by its means the use of narcotics is avoided. F.

Researches in Electrotherapy with Currents of High Frequency

Professors Boinet and Caillol de Poncy, on July 31, gave to the Soc. de Biologie the following résumé (*Bul. Gén. de Thérap.*, No. 17, Tom. II, pp. 513-519, 1897):

The therapeutic effects were observed in a number of patients from the free clinic of the Hotel Dieu treated, in the Physics laboratory, by currents of high frequency. The method employed was that indicated by Prof. d'Arsonval. A Rhumkorf coil was fed by a current furnished with six accumulators and regulated to eight amperes. One of the electrodes was applied over the legs, the other was placed in the hands. They were applied directly to the diseased surface in a case of eczema and of lymphadenoma. The daily sittings were finally as long as forty minutes, with an interval of ten minutes of rest; and they were repeated sixty-three times in some cases.

After a number of sittings, all showed amelioration in their general state—diminished feebleness, renewed strength, improved appetite, better stools; insomnia relieved quite often; the curve of acidity, urea, phosphoric acid, and fixed matters was frequently heightened; in certain neurasthenic patients the quantity of urine was increased. One patient had lost six pounds in weight after fifty-two sittings. Finally, in several cases the acidity of the gastric juice was increased where it had been subnormal—hypochlorhydric neurasthenics. These therapeutic studies were made in cognizance of signs and objective symptoms easy to control.

Without citing their cases, the conclusions of the authors are that the general state is improved and the strength increased; there is almost no improvement in glycosuria and albuminuria; the action on functional motor troubles (simple chorea, arhythmic hysterical chorea, etc.) is favorable; lead-palsy receives no lasting benefit; in the same category belong hemiplegia, exophthalmic goiter, lymphadenoma, and manifestations of tertiary syphilis; finally, good results were obtained in neurasthenia. H.

The Therapeutic Employment of Digitoxin Crystals

V. Starck (*Munch. med. Woch.*, Jan. 26, 1897) reports a series of fourteen cases in which he has employed digitoxin crystals within the last six months, with a success equal to that reported by Aubel, Masius, Wentzel, and Unverricht.

He employed the drug in the form of tablets containing about 1-256 of a grn. (¼ milligram) as supplied by the manufacturers. The fourteen cases comprised ten cases of valvular failure, two of myocarditis, one of fatty heart, and one of arterio-sclerosis with passive congestion of the kidney. The tablets were well borne in all cases, and there were no symptoms of irritation.

In the case of fatty degeneration the digitoxin had no effect. In one of the cases of myocarditis the effect was transient, while in a second after repeated attempts it produced good results where all other means had failed. In cases of valvular insufficiency the action began four or five hours after administration. In the case of arteriosclerosis with passive congestion of the kidneys the result was better, especially as regards the diuresis, than with any infusion of digitalis. In one case of mitral stenosis, after eight doses had been administered in three days, marked symptoms of digitalis-intoxication were shown, the pulse falling to forty-six beats per minute. By the use of camphor-injections the patient soon rallied, recovering completely in four days, was enabled to leave his bed, and remained well for three months afterward. M.

Treatment of Affections of the Middle Ear

Dr. Bolt says that the conservative non-operative treatment of purulent middle-ear diseases is very unsatisfactory, but where we have no alternative, the following combination will prove of great service (*Therap. Monatsh.*, XI, No. 7):

Storax..................	each 4 grn.
Balsam of Peru....	
Alcohol................	each 2½ dr.
Distilled Water..........	

S.—To be dropped into the ear.

M.

The Effect of Curare, Atropine and Methylene-blue upon the Thermogenic and Glycogenic Functions of the Liver

Bennati (*Gazz. degli Ospedali*, XVIII, No. 70), as a complement to his works on the temperature of the liver, reports the results of his experiments on the action of curare, atropine, and methylene-blue on the liver. In animals, under small doses of curare, the hepatic temperature increases not more than 9-10 of a degree centigrade, the increase is transitory, and ceases on severing the vagus in the neck. After death the temperature increases from 2-10 to 1 degree centigrade, just as in other animals dead from different causes other than the poison. Animals under larger doses of curare do not show any increase in the hepatic temperature, and after death they behave like non-poisoned ones.

The action of atropine is similar to curare. With lethal doses the increase in temperature was at times between 1-3 and 1-5 of a degree centigrade, with a maximum slightly above 1 degree, and at others there was no increase at all. Post-mortem temperature was the same as in non-poisoned animals.

Methylene-blue, when given in doses of gm. 0.20 to 0.40 per kg. of living weight, reduces or prevents increases in the temperature of the liver. During the period of cardiac paralysis the temperature-curve of the liver is changed slightly or not at all.

Thus curare and atropine produce their inhibitory power on the hepatic thermogenesis only during life; on the other hand, methylene-blue does so post-mortem. All of them, given in sufficient doses, prevent the elevation of the hepatic temperature produced in the animals under asphyxia, reduce the production of glycogen in the liver and prevent it in the blood. The post-mortem glucose-production is not affected by curare and atropine, but is checked by methylene-blue. In famished animals killed by asphyxiation no increase in temperature or in glucose was observed post-mortem. In animals well supplied with bread, and after increasing the glycogenesis by stimulating the celiac plexus by electricity, the temperature was perceptibly raised (0.62° C.).

Thus, without excluding the other contributing factors of the hepatic temperature, a principal one seems to be the mechanism of sugar-production and the action of the nervous system in modifying the bio-chemical process of transformation of glycogen into glucose. The transformation of glycogen into glucose is a process of hydration and esothermic process. So the hepatic thermogenesis is only a physio-chemical phenomenon, in which the protoplasm of the hepatic cells acts like an organic ferment.

Atropine, curare, and perhaps some other poisonous products prevent thermogenesis during life by acting on the peripheral nerves which govern fermentative action.

The writer believes that further experiments are needed to demonstrate the therapeutic value of methylene-blue in glycosuria. W.

Cervical and Submaxillary Adenitis and Kerato-conjunctivitis Treated with Maragliano's Serum

Beccarior (*Gazzetta degli Ospedali*, No. 78, 1897) has reported to the Academy of Medicine of Turin that in cases of cervical and submaxillary adenitis, associated with lymphatic and pustulous kerato-conjunctivitis, he found much general improvement and speedy healing of the affected eye follow intramuscular and subconjunctival injections of Maragliano's serum. None of the patients was suffering from any manifest lesion of the lung or fever, but every one of them showed well-marked scrofulous stigmata, and their family history was of undoubted tuberculosis.

The injections were more effective if made every five or six days than made every day or two. The body-weight increased, as did the gastric functions. There was no rise in temperature. Erythematous manifestations were rare. Neither pain nor irritation of the conjunctiva was found, and the serum was absorbed very rapidly (in about twenty-four or thirty-six hours). The affected eye speedily recovered ordinarily after four or five days, and with no more than two subconjunctival injections. Very seldom the phlyctenular and pustulous kerato-conjunctivitis reappears. W.

Strychnine Arsenate in Asthma

Dr. Forbes Godfrey (*Alkal. Clin.*, IV, p. 197) gives an account of a case in which strychnine arsenate effected a cure in a case of asthma that had resisted every other remedy for fifteen years. The patient suffered from frequent attacks, that finally incapacitated him for work. Dr. Godfrey was led to the use of the remedy because a thorough examination of the patient's physical condition showed that all the organs were perfectly normal, but that the general condition was anemic, his general muscular action sluggish, memory poor, and a feeling of general irritability was always present, thus indicating the need of a cerebro-spinal tonic. The strychnine arsenate was given in pills of 1-30 grn., one after meals for three days, then two, three times a day for three days, and so on until four pills were being taken three times a day, with the caution, however, to stop their use should any stiffness of the jaws become noticed. The result was a complete cure. F.

Thyroids—Their Use in Other Diseases Than Cretinism

In cretinism the use of thyroids is followed by distinct blood-changes. Anemia improves rapidly, and when the correct dose has been attained this improvement becomes permanent, says Dr. Koplik in *Arch. Paed.* for July. In the blood the red blood-cells are increased. In the bones the growth is not at all uncertain. The influence of the thyroid on the nervous system and on the subcutaneous structures and their nutriment is striking. The writer then follows by reporting cases of lipomatosis universalis, hydremic anemia, marked simple anemias; these cases being in children.

The treatment in general was for the initial dose, ½ grn. twice daily, and at the end of a week the dose was increased to the same dose thrice daily, then later four times daily, and finally the dose was made 2 grn. daily, and kept up for the entire summer. In conjunction the use of iron was beneficial.

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Antigalactagogue Mixture

M. Blogm is the author of this formula (*Rev. méd.*, Quebec):

Atropin Sulphate	0.03 gme.	(½ grn.)
Magnesium Sulphate	90 gme.	(3 oz.)
Infusion Gentian	200 gme.	(7½ oz.)

Teaspoonful every two hours.

REVIEWS

Essentials of Obstetrics.— By Charles Jewett, A.M., M.D., Sc.D., Professor of Obstetrics and Pediatrics in the Long Island College Hospital, and Obstetrician to the Hospital. Assisted by Harold F. Jewett, M.D. In one 12mo. volume of 356 pages, with 78 illustrations and 3 colored plates. Cloth, $2.25. Lea Brothers & Co., publishers, New York and Philadelphia, 1897.

Books like this are always desirable, because the student must first master the essentials of a subject before giving attention to exhaustive treatises.

The subject-matter is well arranged, practical, and concise. The author's long experience as a teacher has enabled him to produce a work which every student of obstetrics should possess.

The chapters on the anatomy of the female genital organs, and on the physiology of pregnancy call for special commendation.

In the section devoted to the disorders of the new-born infant the author has arranged his subject in subsections, thereby making the text much clearer. One of these subsections is headed with the vague word "Ophthalmia."

In treating of ophthalmia neonatorum, the author mentions the employment of both cold and warm applications to the eye, but he fails to caution the student against their indiscriminate use. He should have at least devoted a few more paragraphs to the treatment of so formidable an affliction as ophthalmia neonatorum.

Excepting the points we have just criticized, Dr. Jewett's book will commend itself not alone to the student, but also to the physician. We should not exaggerate if we said that this is the best elementary work on obstetrics which we have seen. What we especially like is the simple, correct, and scientific manner in which all the subjects are explained.

The printing, binding, etc., are well executed, reflecting credit upon its publishers.

A Manual of Medical Jurisprudence.— By Alfred Swaine Taylor, M.D., F.R.S. Revised and edited by Thomas Stevenson, M.D., London. Twelfth American edition, edited with citations and additions from the twelfth English edition, by Clark Bell, Esq., LL.D. Lea Brothers & Co., New York and Philadelphia. 1897. Cloth, $4.50; leather, $5.50.

This standard work on medical jurisprudence is already so well known as one of the best, and possibly the very best, in the English language, that no word of praise from us can possibly raise it any higher in the estimation of those who know it. This new edition is a marked improvement upon the old, and makes it of still greater value to those who need to consult a work of this kind. The names of the revisers are an ample guarantee of the quality of its contents as they now stand. Both of them are not only authorities on the subjects handled, but authorities of world-wide recognition. They have also chosen as consultants and assistants men of equal ability and authority. The following heads into which the work is divided will give a good idea of the valuable contents: Medical Evidence; Poisoning; Corrosive and Irritating Poisons; Metallic Irritants; Vegetable and Other Irritants; Neurotic Poisons: Wounds and Personal Injuries; Drowning; Hanging; Strangulation; Suffocation; Lightning; Cold, Heat, and Starvation; Pregnancy; Delivery; Criminal Abortion; Infanticide; Birth and Inheritance; Legitimacy; Paternity; Impotency and Sterility; Rape; Insanity; Life-insurance; Medico-legal Surgery. The chapter dealing with blood and blood-stains is of intense interest, and the excellent plates giving the sizes and appearance of the red blood-corpuscles in many animals and man, together with the comparative tables, are exceedingly valuable and interesting. The closing chapters on life-insurance and medico-legal surgery are likewise excellent. The work of the publishers is above criticism, and commends itself at sight.

Das Verhaeltnis der Experimentellen Bakteriologie Zur Chirurgie: Antrittsvorlesung, gehalten am 10. Juli 1897, in der Aula der Universitæt, Leipzig, von Paul Leopold Friedrich. Verlag von Wilhelm Engelmann, Leipzig.

In this brochure the author considers the services which experimental bacteriology has rendered to surgery. He considers the three domains of surgery: (1) The surgical infectious diseases; (2) the treatment of wounds and injuries, and (3) operative procedures, and finds that the marvellous advances made in each of those fields are due in great part to bacteriological experimentation. Incidentally, the question of suppuration is taken up, and the view, now gradually gaining general acceptance, is advanced, that it is not only one or two kinds of bacteria that generate pus, but, on the contrary, a large number of bacteria may, under certain circumstances, become pyogenic. Such bacteria are, for instance, the pneumococcus, Eberth's typhoid bacillus, the coli bacillus, the tubercle bacillus, and the gonococcus.

The concluding passage may be reproduced here:

"Only with the evolution of experimental bacteriology have our ideas of the causes, treatment, and prophylaxis of surgical infections become clear and definite. The entire subject of asepsis and antisepsis has its root in those experiments. They have in numerous surgical affections made the knife superfluous; while, on the other hand, by making the prevention of sepsis an absolute certainty, they have enlarged the field of operative surgery immensely—both to the lasting benefit of suffering humanity."

Diseases of Women: A Handbook for Students and Practitioners, by J. Bland Sutton, F.R.C.S., Eng., and A. E. Giles, M.D., B.Sc. Lond., F.R.C.S. Edin. 436 pages, 115 illustrations. Cloth, $2.50. Philadelphia: W. B. Saunders. 1897.

This manual is divided into forty-eight chapters, beginning with the anatomy of the reproductive organs and concluding with abdominal operations. The two chapters devoted to diagnosis will prove very instructive to the reader. We should have preferred to have seen them placed just after the chapter on "Methods of Examination of the Female Pelvic Organs." The method of presentation is somewhat faulty. We notice that no palliative treatment is advised in uterine fibroids; no radical cure for gangrene of the vulva; nothing is said about the use of electricity and massage in gynecology, and no mention is made of ichthyol as a local antiphlogistic. The chapters on operative treatment are very good, and will be appreciated, especially by students, who do not care to be worried by numerous remodeled operative procedures for each disease. We miss full directions in the employment of anesthetics and disinfectants, two very important subjects, which ought not to be dismissed with a few general remarks. The woodcuts illustrating the "gonococcus" and "vaginal bacillus" are not well adapted to a book like this. The index is original in its kind, and merits our approbation. The print, illustrations, and paper reflect great credit on the publisher.

CORRESPONDENCE

Physician or Homeopath?

To the Editor of the A. M.-S. Bulletin:

The discussion with Dr. Beebe has been for me a very interesting one, because, though I do not accept Dr. Beebe's position, I am not without sympathy for him. I believe the profession made a mistake in its treatment of the followers of Hahnemann, and that the blood of the martyrs became the seed of the church. Had homeopathy been regarded as a vagary, and left to work out its own salvation, it would long since have been, as a system, a thing of the past. Some of the claims of homeopathy have seemed so absurd and contrary to the good sense of mankind that they have excited the ridicule of wits both in and out of the profession, and so have hurt the sensibilities of the homeopaths. It is probably true that these efforts have never convinced any one, or shaken the faith of any adherent of the faith. It has been my good fortune to have among my friends several physicians of this faith, and I believe that some of them at least are honest, sincere men, who have faith in the remedies they use, and think that they effect cures. That such men are affronted when they are called quack and charlatan is not to be wondered at. I do not know how they reconcile the extravagant claims of Hahnemann to common sense, but so long as I know them to be men of veracity, I feel that I ought to withhold injurious epithets and treat them with the respect due to sincerity. The true point of criticism in the conduct of these gentlemen is that they suffer themselves to bear the brand of a distinctive name and so set themselves apart as a sect, while every man who makes medicine his profession ought to feel that it is his highest honor to be recognized not as a disciple of this or that man, of this or that school, but to be known as a physician. It is to the credit of regular medicine that long ago it threw off the badge of any and every teacher. If these gentlemen persist in being known as homeopaths, that is, as adherents to a single method of practice, have they any call to be angry if physicians designate them as sectarians? For if the advancing knowledge of our science has revealed anv one thing clearly it would seem to be that there is no infallible or exclusive law of therapeutics. No one man has all the truth, no body of men know it all, and no system can be perfect. (Our friend Dr. Beebe admits that "we have advanced far beyond what Hahnemann saw or taught.") This being the case, what folly to bind on one's frontlets the name of any man. It is certainly true that very few homeopaths are practicing, in their strictness, all the doctrines of Hahnemann. Probably a less number accept his pathology. This being the case, let them throw off the denominational name and stand forth simply as physicians. There is on the part of many physicians a contemptuous intolerance for opinions which seem to them contrary to the dictates of common sense, which may be hard to endure patiently, and which may not be the best way to conciliate different opinions. In this matter "Let him that is without sin cast the first stone." The great majority of medical men do not believe that there is one universal law of therapeutics—*similia similibus*—any more than they believe that there is one universal cause of disease—psora—but evidence to that effect will not be rejected if offered in a scientific method. Claims for "cure" alone are not such proof as is necessary. The faith-curer, the vita-pathic, the oxydonor, the magnetic healer, the layer-on-of-hands, the Christian-science healer, and the like, "claim" to have "cures" as the result of their manipulations, and certificates galore. All claims to any infallible rule of practice must be tried in the court of a wise scepticism which shall patiently eliminate from them all possible sources of error and weigh well what is left. The great discoveries in pathology, chemistry, physiology, and etiology are due to practitioners whom our homeopathic brethren, if in a special complimentary mood, term "crude homeopaths." Take only anesthesia and antisepsis; these two things have done more to advance or revolutionize medicine than all the work of irregulars since the world began. I do not learn that homeopaths refuse to make use of either of these great contributions to practical medicine, even if they do come from the "empirics." So far as I understand the contributions of homeopathy to medicine, they consist in the supposed law of similia, the doctrine of psora as a cause of disease, and the dynamization of inert and other substances by friction, though I do not understand that the two last are very strongly insisted upon by most practitioners in these days, and certainly not many carry the practice of extreme dilution to the extent that was formerly taught. In these circumstances, is there enough left of the teachings of Hahnemann on which to found a sect? I am not unwilling to admit that the influence of homeopathy on the practice of regular medicine has been in some particulars beneficial. Personally, I have derived hints of considerable value from homeopathic therapeutics, but all this and much more might have been effected had the homeopaths been content to work within the ranks of medical men, instead of demanding, as they seem to do, martyrdom.

Comparing the contributions to scientific medicine made by these "crude homeopathists" and the genuine article, the former need not lower their flag. If our friends have advanced beyond anything Hahnemann taught or saw, why do they swear by his name? It is only an assumption of superior wisdom that makes them withhold from the full communion of the saints. They may say that is a matter of necessity on their part. It is so only because they insist on the shibboleth of "similia" as the test of orthodoxy. They make the conditions which bar them from the fellowship of men who will not be bound by any exclusive dogma. So long as they proclaim that no one can be a true practitioner who does not accept and practice on the doctrine of Hahnemann it will hardly be possible for others who have no sufficient reason for such belief to enter into terms of fellowship in professional matters. Is this a hardship?

H. A. Carrington.

Bristol, Conn., Nov. 9.

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The New York State Board of Health has appointed Dr. Dillon Brown and Dr. W. H. May special examiners of antitoxin, as a guard against impure or fraudulent products being sold in the State. Their duty begins on January 1, 1898.

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Editor: ROBERT G. ECCLES, M.D.

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EDITOR'S NOTES

We are indebted to the courtesy of Dr. J. P. Riggs, of Kappa, Ill., for an interesting clipping from the Kansas City *Star* which contains a fac-simile of a diploma that was issued by the National School of Osteopathy to a gentleman claiming to be from Springfield, Mo., without his having to go through the formality of attendance at lectures or being examined. The price of such a diploma is $150. Governor Stevens ought to fill the offices in the State asylums with graduates from this institution that he has so considerately taken into his care.

The *American Journal of Dermatology and Genito-Urinary Diseases* is a new journal devoted to the treatment of the subjects which the name indicates, and published at St. Louis, Mo. While dermatology is of sufficient importance, it would seem that the making of many books and journals on this subject might as well cease. It is true that heretofore America could boast of only one journal on cutaneous and genito-urinary diseases.

The material gathered by Dr. S. C. Martin, the editor, for this first number is of a satisfactory character. The subjects are dealt with in a clear, lucid, and sufficiently simple manner to make the *Journal* particularly useful to the general practitioner. Here and there is a number of typographical errors, which, of course, are excusable in an infant undertaking.

The editor, who is a St. Louis dermatologist, is sufficient guarantee for the successful career of the *Journal.*

The late ruling of the Supreme Court of Illinois in the case of Dixon vs. the People certainly seems to us unjust. By what sort of reasoning Judge Creighton ever reached the conclusion that he had a right to fine Dr. Dixon for refusing to give expert testimony without an expert's fee it is hard to surmise. Such knowledge is wholly unlike that usually called for in courts of justice. The Supreme Court, in upholding Judge Creighton, claimed that no distinction could be made between kinds of knowledge without defeating the ends of justice. This is a reversal of all the precedents of court practice in that the distinction between facts on which juries must base conclusions and the conclusions of witnesses has from time immemorial been made by the courts themselves. It also reverses all precedent in that it has hitherto been held that knowledge that will incriminate the witness may be withheld. It also reverses late decisions that make it criminal for an employé to give away the technical knowledge of a business in which he is or has been engaged. It puts it in the power of courts to steal business secrets in chemistry, the arts, and mercantile business worth millions of dollars, and enables a venal judge, if he will, to ruin hundreds of prosperous men. It invades the sanctity and secrecy of the Roman Catholic confessional, and makes it possible to punish a Roman Catholic priest who refuses to reveal any or all the secret acts of his parishioners. It makes it possible for any citizen, on some trumped-up charge, to invade the diplomatic correspondence of the Secretary of State, and force from him or his clerks international secrets. It opens a way for suspicious persons to compel doctors to divulge the nature of the diseases from which their patients suffer. The basis on which the ruling of the Supreme Court was given, if correctly reported in the public press, is certainly contrary to common sense and sound public policy. It upsets all precedent and leads directly toward anarchy by bringing courts under the contempt of all thinkers. Dr. Dixon's knowledge was paid for by him in solid cash. The ruling was equivalent to theft, in that it stole from him something he had to buy. The ordinary testimony of witnesses had no such character. The distinction is a marked one and easily made. His knowledge also was the result of effort—labor—to acquire. The knowledge called for from ordinary witnesses, being confined to matters of fact or experience, comes to them without effort, and frequently against their will. If knowledge costing cash and labor can thus be confiscated by any court, why should not other goods costing cash and labor be subject to such confiscation?

Our esteemed contemporaries, the *Atlanta Medical and Surgical Journal*, and the *Georgia Journal of Medicine and Surgery*, are expressing astonishment at the fact that the medical men of the North are not omniscient. The *Georgia Journal*, commenting on an incident that occurred at the late meeting of the American Academy of Medicine, says: "It seems to us ridiculous that these superiorly educated beings, assembled together in the City of Brotherly Love, should exhibit so monumental an ignorance concerning the fathers of the Republic in which they live." The *Atlanta Medical Journal* quotes this approvingly, showing that there is a unanimity of opinion in Georgia on this subject. They had evidently heard their Georgia Independence-day medical orators glorifying over the fact that the Declaration of Independence had among its signers a Dr. Lyman Hall, of Georgia, and it made them feel aggrieved to think that the members of the Academy had never heard of this fact, and only knew Benjamin Rush among all the signers as a medical man. This, certainly, was treason to Georgia. Connecticut has not shown itself sensitive over the affair, although it had its Dr. Oliver Wolcott as the *Journal* relates, and New Hampshire, that beat all the rest by having Dr. Josiah Bartlett and Dr. Matthew Thornton, has also kept quiet. Our Georgia medical brethren should remember that the affair happened in Philadelphia, and that may account for it. It did not dawn upon them in time to correct it. But, seriously, what was there "ridiculous," or even surprising, in the incident? If the members of the Academy had other more useful knowledge in their heads, it really was better for them, and we question whether even the members of a historical society would have been prepared, off-hand, to correct a mistake of this kind.

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Methylene-blue for Chronic Cystitis

The *Rev. méd.* (Quebec) attributes the following to Jays:

Methylene-blue, C. P.	0.08 gme.
Powdered Talcum	0.12 gme.
Lanolin	sufficient for 1 pill.

From two to four such pills daily.

PUBLISHERS' DEPARTMENT

CENTRIFUGAL ANALYSIS

This is a title of a manual on the use of the centrifuge in every-day work, published by the Bausch & Lomb Optical Co., Rochester, N. Y., Nov. 1897.

The use of the centrifugal machine for the examination of blood, urine, sputum, milk, water, etc., while not new to physicians, is not as common as that of many other useful appliances. It is the object of this small book to popularize it and to furnish in convenient form actual working specifications, so that even an inexperienced person can take the centrifuge and, by simply following directions, obtain accurate and uniform results. The manual will be mailed *free* on application to above.

MEDICINAL AUTOSPRAYS

Attention is called to the advertisement of Messrs. Fries Bros., 92 Reade Street, New York. The medicinal autosprays are operated similarly to the kelene tubes, by the mere heat of the hand. They contain nearly all the medicaments for external application that the general practitioner requires, and afford a simple, effective, and economical method of application.

COLUMBIA PAD CALENDAR FOR 1898

The thirteenth edition of the attractive little Columbia pad calendar which has just been issued, seems to have outdone its twelve predecessors. We have become accustomed to the annual advent of the Columbia Calendar, and its appearance is always looked forward to with interest.

The calendar-stand is so arranged that it may be made either to stand on the desk at an appropriate angle, or to hang upon the wall. It will be mailed to any address by sending five 2-cent stamps to the calendar department of the Pope Manufacturing Company, at Hartford, Conn.

ARTIFICIAL LIMB FOR JAPANESE MINISTER

The Japanese Minister to the United States was instructed weeks ago to obtain the best artificial limb in this country for Count Okuma, the Prime Minister of Japan, and he turned the order over to the Secretary of the Legation, who instructed Consul-General Ucheida to consummate the negotiations. The latter gave an order to the firm of A. A. Marks, 701 Broadway, N. Y., for a limb that is to cost $100. It was shipped to Japan in two weeks. This is the second wooden leg that the Prime Minister has purchased in this country.

TRIKRESOL

In the selection of antitoxin, physicians prefer to discriminate in favor of the product that is preserved with a reliable antiseptic. Carbolic acid, camphor, trikresol, etc., are used for this purpose. Experience has shown that carbolic acid is not adapted to all cases, because it is too toxic and irritant. In small proportions it is a feeble antiseptic. Camphor is insoluble and very feebly antiseptic. On the other hand, the strong odor prevents the detection of decomposition. Mulford's concentrated antitoxin is preserved with trikresol, which experience has shown possesses the advantage of being a perfect preservative in very small proportions, while it is but feebly toxic even in very large proportions.

NEWS

Dr. Sanarelli expects soon to visit Italy, where he will deliver one or more lectures on yellow fever and the Bacillus icteroides.

Ohio's medical law has stood the test of an appeal and is now established as perfectly constitutional. The quacks of the State feel very aggrieved over this ruling, and now must either meet its requirements or try their fortunes elsewhere.

The Chicago *Journal* of Nov. 10 states that the evening before representatives of the Illinois State associations of homeopathic, eclectic and regular medical men gathered at the Great Northern hotel to lay plans for an amalgamation of the three organizations.

The Police Commissioner of the District of Columbia is about to start a course of instruction in "First Aid to the Injured" among his men. The police will be trained in handling and caring for emergency cases so as to know what to do until the arrival of the doctor, or until the injured reach a hospital.

The Chicago *News* says that President Healy, of the Cook County board, has given his consent for the trial of an anti-rheumatic serum prepared by Dr. Hans Froelich, a Swiss physician, on the rheumatic patients in the County Hospital. Six cases will be turned over to the doctor to experiment upon.

The tenth annual gathering of the Southern Surgical and Gynecological Association began its sessions in St. Louis on Tuesday, Nov. 9. The attendance was large, but it is claimed would have been much larger but for the yellow fever in the South. Dr. George Ben Johnson, of Richmond, Va., presided.

The students of the Louisville Medical College have been charged with flirting with and annoying the high-school girls of that city. They deny the accusation, and bring evidence to show that the complaint is a scheme of the principal of the female high-school to get a new building for his pupils in a more desirable part of the city.

Lewiston, Me., is suffering from an epidemic of diphtheria. The secretary of the Board of Health resigned because he thought the Board was not doing its duty in the emergency. The new secretary said there were only fifty cases on Nov. 2, but others do not agree with so low an estimate. The schools had not been closed at that date.

The Supreme Court of Illinois has decided in a case of appeal where a Dr. Dixon was fined $25 for contempt of court, that experts must, when called upon as witnesses in cases, give their testimony, knowledge, and theories for the ordinary witness-fees of a few cents per day. Knowledge is thus held to be public property, no matter how much the owner may have paid for it.

The Texas doctors are uttering protests against the occupation-tax levied upon them. Those of Navarro County met lately in Corsicana to see what could be done for their protection. Dr. I. N. Suttle delivered an addresss showing how much in the way of charity and unpaid services medical men were doing for the public, and how unjust it is to tax them because they are doctors.

The St. Louis *Republic* of November 13 is responsible for the statement that at a reception given to Dr. Howard Kelly, of Baltimore, in the home of Dr. A. C. Bernays, of St. Louis, the host of the occasion denounced a statement that appeared in Dr. I. N. Love's journal concerning Dr. Kelly, as infamous and despicable, and that, too, in the presence of Dr. Love and nearly 400 of their mutual acquaintances.

The twenty-fifth annual meeting of the American Public Health Association is said to have been one of the most successful in its career. There were health-officers in attendance from nearly every State, from Canada, and from Mexico. Over two hundred members were registered, and but for the yellow fever in the South there would have been many more. Philadelphia has been blessed this year with its full share of medical conventions.

The medical staffs of some of Chicago's live hospitals received an immense advertisement in the *Sunday Chronicle* of Nov. 7. In large headlines over their names appeared the following: "Surgery Robbed of Its Perils. Antiseptic Methods and Appliances as Practiced by Modern Scientists Destroy the Ancient Terror of the Operator's Knife. Latest Discoveries of Skilled Men Made Use of in All of Chicago's Big Hospitals." The pictures of three leading medical men illustrate the text.

Dr. Doty, Health-officer of the Port of New York; Dr. Durgon, of the Boston Board of Health; Dr. Horlbeck, the Health-officer of Charleston; Dr. Swearing, of the State Board of Health of Texas, and Dr. Oliphant, of New Orleans, lately held a conference with President McKinley, regarding the preparation of a bill to Congress providing for a commission to endeavor to confirm Sanarelli's work with the Bacillus icteroides, or to discover the true cause of yellow fever. The President assured the committee that it had his hearty support in the matter. A sub-committee of three was left in Washington to draft the bill.

A convention of the members of the various California Boards of Health was held in San Francisco on October 26, for the purpose of discussing quarantine regulations, consumption, and general sanitation. The following among other resolutions was passed:

Resolved, That the State authorities be impressed with the fact, fully established and recognized by the medical profession, that tuberculosis is an infectious disease, capable of being controlled by special measures; and that provision should be made at public expense for bacteriological investigation, conducted under the supervision of the State Board of Health, suspected sputa, milk, or meat, being examined and reported on.

The State Board of Health of Florida is issuing immunity-cards to such of its citizens as wish to travel in regions where there is yellow fever. These cards permit them to pass quarantine unmolested. They are only given to those who have given evidence of having had an attack of yellow fever in the past. These cards read as follows:

YELLOW-FEVER IMMUNITY-CARD.

This certifies that ....

a native of ....

and resident of .... experienced an

attack of yellow fever at ....

in 18.. Attending Physician ....

No... ....

State Health Officer of Florida.

This card does not exempt baggage and personal effects from disinfection.

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EDITORIAL

THE ENEMIES OF SCIENTIFIC THERAPEUTICS

IT is a pitiful and sad fact that there are in this world, in spite of the advanced civilization of this age, multitudes of men and women who are willing, for the sake of promoting their own interests, to sacrifice the most pressing interests of the race. They either cannot or will not look facts squarely in the face so as to foresee the possible consequences to others of their conduct. Seeing some trivial inconvenience to themselves or some friend, in the new advances science is making, they array themselves against it with all their might, not even hesitating to misrepresent facts in order to fight it more effectually. Others find it in conflict with some pet opinion of theirs, and resort to every despicable device of misrepresentation in order to check its growth, and if possible end its career. Still others, finding that they will be enabled to make a living by catering to the bitter enmity of the classes referred to, take up such opposition as a business. Probably the meanest of all are those who, while pretending friendship for science, are wilfully misleading its friends with the sole object of promoting their own mercenary schemes.

Modern therapeutics no sooner begins to take on a rational aspect than enemies spring up in many directions fully determined to hinder its progress, and if possible completely check its career. Of all its enemies, however, the traitors within its own camp are by far the most dangerous. If the great bulk of medical men will only continue, as now, to hold themselves in a truly judicial frame of mind, the opposition will come to nothing. It is, however, an exceedingly difficult thing for a busy practitioner to keep well enough posted in the work being done by true men of science to fortify his mind against the insidious attacks of enemies, both within and without the camp. The plausible falsehoods and garbled quotations of fanatical antivivisectionists may not disturb his judgment, the opposition raised by defiant sectarianism may only prove a source of amusement to him, the jibes and sneers of the smart editors and reporters of the public press may but strengthen his devotion to the right, but the lying, deceptive claims of pseudo-scientists, who pretend to be defenders of the right, are often too much for the most honest, and are likely to leave the impression on the mind that they and the true men of science are alike.

Every step of scientific progress is likely to be subject to a series of changes like those experienced by Sir Isaac Newton when establishing the law of gravity. On calculating the amount of attraction the moon exerts upon the earth it did not seem to agree with his law. Knowing how fast bodies at the surface of the earth fell, he calculated therefrom the velocity with which the moon should fall toward the earth according to the law of inverse squares, and found that it ought to be about fifteen feet per minute. The actual fact, however, was that the divergence from the tangent of its orbit was only about thirteen feet. Here appeared to be a complete refutation of his law as applied to celestial bodies. He was completely staggered, and feeling that he must have been mistaken in his belief, he abandoned the whole investigation for nearly sixteen years, when it was discovered that a mistake had been made in calculating the distance of the moon from the earth, and that this had misled him. When calculated on the basis of the newly discovered distance, the movements of the moon were found to agree exactly with the law of inverse squares. True facts and true discoveries are constantly subject to misunderstanding and misinterpretations of this kind. One day the world will hear of some new discovery of great value, and in a few days later it will seem to have been completely refuted. At a still later date it will be reconfirmed in a new and substantial manner.

Scientific men, in groping their way through the dark labyrinth of the unknown have unusual difficulties to contend with, and if errors in judgment did not often occur where the facts are necessarily meagre, it would be a miracle. But all this gives to their work an appearance of vacillating instability that is not very encouraging to those who do not fully appreciate its difficulties.

In departments of science, against which human interests and prejudices are not arrayed, such alterations of attitude have no great hindering power. In therapeutics they beget bitter strife and many heart-aches. The discoverer's reputation and honor are placed at stake and the temptation becomes very great for him to cease to be a man of science and to become a partisan. He is forced to make his position appear as if right, whether it is or not. All this is wrong, but the enemies of science are to blame for it.

Medical men who are anxious to know the truth, the whole truth and nothing but the truth in the matter, find themselves in a quandary. Whom shall they believe? The enemies of therapeutic progress point out with great satisfaction every confession of error, every new apparent error, every doubtful position and every seeming contradiction. To cap the climax, they also point out the gross frauds of pseudo-scientists, the crude results of amateurs and the ridiculous claims of advertising charlatans. There is no line of logical demarkation by which the average man can see a difference between the claim of an anti-jag serum and that of a serum for tetanus, plague or diphtheria. To him who is abreast of progressive medicine the first is perfectly ridiculous, but the latter quite likely to prove true. How easy then it is to create a bias against scientific workers by falsely claiming that there is no difference between their work and that of the ignorant and wicked pretenders.

When a money-making mountebank, for the purpose of advertising himself, claims that he has discovered a wonderful cure for corns in an extract of toes immune to corns, the man of science may smile at his claim, but there are many honest people who are not prepared to see any difference in this claim and that of the true discoverer who demonstrates by experiment that extract of the thyroid gland of an animal immune to myxedema will cure sufferers from that disease.

If the one is true they cannot see why the other is not. When the pretender thus gains the public ear it is not long before his falsehoods are exposed, but in the meantime he has had ample opportunity to fleece his dupes and win for science a bad name. Everything of this kind tends to throw therapeutics back by destroying all confidence in its teachings. Its outspoken foes diligently put all these frauds and the honest workers into a common class and mock at the claims of all. They pretend to see in the one the *reductio ad absurdum* of the other. They never show that whereas the true man of science has his work fully confirmed by experts who have reputations at stake and who are often even his polemic foes who would gladly expose an error of his if they could, the pretender never has his work confirmed in any such manner.

Let every medical man who wishes to be on the side of true progress—the side of humanity—see to it that he fights shy of pretended wonderful discoveries, unless for experimental purposes, until they have met the approval of the majority of the men who are experts in the same field of work.

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IS THIS AN AGE OF CLEANLINESS?

AS we near the close of the century we hear a great deal about our intellectual advancement, our progress in life-saving by scientific medicine and the wonderful accomplishments of sanitary science. No doubt we have much to be proud of in the gains that have been made over those of the preceding century, but we might well stop and ask ourselves if facts sustain our every claim or whether in all candor we should not confess that much of the glitter which we take for pure gold is not, after all, mere tinsel, or at best the thinnest kind of gilding.

We received from the eighteenth century a heritage of filth. What sort of a heritage are we going to pass over to the twentieth? Is our generation as cleanly as it might be, and have we lived up to the light we possess regarding sanitary matters? Are the tenement districts of our great cities models of purity, or might we not, in the language of Charles Lamb, exclaim, "If dirt was trumps what hands we would hold?" Is not the curse of the angel of Revelations still upon us, and does he not continue to repeat, "He which is filthy let him be filthy still."

We condemn our fellow beings in India and China for the filthiness that permits them to become a prey to plague, but we should note that what they do is done in ignorance. They see no connection between consequence and cause, and even when it is pointed out to them they do not understand it and cannot believe. Their sinning is not against light and knowledge. But how is it with ourselves? Do we not in spite of the warnings of sanitarians, in defiance of the best-established principles of science, in mockery of the keen-edged scythe of death that hangs over us more menacingly than the sword of Damocles, go on eating and drinking diluted human dejections from morning till night, year in and year out? Could we, if we tried, devise anything more disgustingly filthy than this? Do the inhabitants of Bombay do anything worse?

Pause and think of it. Scan the picture deliberately. Look at the chief cities of Europe and America pouring the concentrated abominations from their water-closets, through their sewers into their streams, thus compelling neighboring cities lower down to use the horrid mixture for cooking, eating, and drinking What if most of it is oxidized on the way and thus purified, it is only the least harmful part that undergoes such a change. The part that is really dangerous, and that nature created our disgust to protect us against, is still virulent. Like the stupid hare that thinks itself safe from the hunter's gun when its head is hidden so that it cannot see the hunter, so we are inclined to think ourselves safe when our protective disgust disappears. The death-dealing element of the vile stuff remains unoxidized and goes down the throats of unsuspecting multitudes, marking for destruction those not immune. Who can reckon the hosts of people murdered from year to year by this criminal carelessness for which no one is willing to take the responsibility? Could we awaken to a full realization of the fact in its stern reality it would make us shudder.

Let us draw a parallel case where the conditions are more easily grasped. Imagine a man taking the discharges from himself and others, extensively diluting them and then boldly, day by day, drinking such dilutions in beer, soda-water, tea, coffee, chocolate, and milk, and also using them for cooking, washing, and baking. The mere presentation of such an illustration to polite ears would be an offence. It brings the matter too close to consciousness for us to relish it. There is here no juggling of consciousness and no illusion of our senses like that which obtains in the everyday habits of a people where familiarity breeds indifference. In a good number of our cities we go on doing this very thing by division of labor and do not seem to mind it at all. We mix the dejecta for others, and others do the mixing for us, while each and all eat, drink, and make merry over the sickening feast. In those cities we eat filth at every meal, drink it in every beverage, wear clothes that have been soaked in it, bathe in it and dry ourselves with towels that have been washed in it. When such conduct brings the natural penalties in the form of death-dealing disease it is applied to the parched lips of the fever-tortured victims in the form of ice and used as a diluent of their medicine under that title of mockery "aqua pura." How long must this state of affairs last? When will the public awake to a realization of their danger? When will those cities stop using water that has been polluted with sewage? How long will the towns and cities upstream be permitted to defile the water that those down-stream are compelled to use?

It is fortunate that great dilution lessens the virulence of pathogenic microbes by lessening the number that a given victim is likely to imbibe, otherwise the consequences would be far worse than they are. As it is, every case of typhoid fever is the result of criminal carelessness in the disposal of filth, and every death therefrom a murder. In cities without sewers, where privies abound, and where dejecta are permitted to filter through into wells, the dilution is less and the number of fatal cases within the affected area likely to be more, yet with all our knowledge we are not free from these abominations.

If we were a cleanly people we should have no typhoid fever, no cholera, no summer complaint, no consumption, no yellow fever, and little if any contagious disease of any kind. For the existence of ordinary filth-diseases of any kind there should now be no possible excuse. A few zymotic diseases are conveyed in ways not yet well known. For the existence of these there is some excuse, but even with them cleanly habits lessen the danger.

Such an epidemic as that at Maidstone, in England, is a disgrace to our boasted civilization. For a single town of that size to have 1,840 cases of typhoid fever within a few weeks is a sad commentary upon modern methods of treating drinking-water. To learn that the Schuylkill and Delaware Rivers, at Philadelphia, are infected with pathogenic spirilla, and to know by many tests that the water of the Hudson is loaded with typhoid bacilli forbid our boasting of better conditions here than abroad..

AMONG THE EDITORS

MEDICAL ETHICS

It will do no good to criticize honest error and misapprehension, if covert, conscious, hypocritical offense is to be condoned. It is not ethical, we are told, to advertise. But can a proper morality be taught, can the decencies of the profession be maintained, by so construing the rule that it shall prevent a physician from giving open and candid notice to the public in a medical journal of curative treatment he proposes to employ, and in the efficacy of which he sincerely believes; and yet countenance another doctor in using all the arts by which reportorial favor is secured, until his name and his face shall appear in the newspapers as often and as prominently as if he were a "boss" politician or a prize-fighter, and every operation at which he assists be chronicled as if it were a royal accouchement?

We wish it to be distinctly understood that we have no objection to a code of medical ethics of the strictest character; but if we are to have one, we wish to have it clearly interpreted ana its provisions rigidlv and impartially enforced. We insist upon "equal rights to all, and exclusive privileges for none," and we shall never consent to a code which shall be merely a compilation of rot and claptrap to assist hypocrisy in practicing fraud.—*Louisville Medical Monthly.*

CHRISTIAN SCIENCE

Christian Science is one of the most insidious enemies with which legal medicine has to contend. Ordinary laws regulating the practice of medicine can scarcely be construed to apply to those who declare publicly that they are most distinctly not giving medicinal or even medical treatment. With specious claims to literal truthfulness, the Christian Scientists can claim that they are carrying into practice what every member of any Christian sect and of many other religious bodies accepts as dogmatically correct. It is impossible to require by law the attendance of a regularly qualified medical man on any particular case. In a general way, necessary medical care is required of those responsible for the welfare of the patient, but it is impossible to lay down practicable rules regarding the degree of physical or mental disability which shall make the calling of a physician imperative. Neither is it within the power of the law to prescribe the qualification of any particular physician or of his school of practice. It is manifestly impossible to discriminate against a school of medicine in good legal and ethical standing, or to go within the limits of any school of practice and endorse certain ideas and condemn others.

Christian Science has its roots in that element of society from which all similar fads derive support. Its advocates are persons of considerable social influence, of good moral character—too good to appear compatible with the deeds of inhumanity and tendencies toward murder—of leisure for proselyting. Such persons cannot be alluded to as ignorant and uneducated, yet we usually find them superficial in knowledge and comparatively untrained in intellect. They are just the ones who can be convinced by sophistry, and who cannot follow a truly logical mind in the exposure of fallacy.—*Medical News.*

ANTIVIVISECTION

The humane societies would have the world believe that physicians are vampires, veritable hyenas, who are only restrained in their professional work through a wholesome fear of public opinion, backed by laws enacted by legislatures. It may be asserted that there is no class of men to be found in any community who are more self-sacrificing for the good and welfare of the people at large than physicians.

It is they and they alone who are able to mitigate the sufferings of a difficult childbirth.

It is they and they alone who are able to relieve the aching head of the fever-stricken child or adult.

It is they and they alone who are able to relieve the tortures of rheumatic and neuralgic pains.

It is they and they alone who are able to keep in motion the heart whose valves are broken or insufficient to resist the blood's backward gurgitation.

It is they and they alone who can relieve an over-distended bladder.

It is they and they alone who can stop a concealed hemorrhage.

It is they and they alone who can reduce a dislocation or set a compound comminuted fracture of bones.

It is they and they alone who can remove a cataract from the eye, thereby restoring sight to the blind.

It is they and they alone who can relieve or mitigate the terrible pains of malignant disease.

It is they and they alone who can soothe the last hours of those who are surely passing from this world to another.

It is they and they alone who have reduced mortality-rates within one hundred years from eighty per thousand per annum to fifteen..

It is they and they alone who have driven from civilization the black death, typhus and small-pox.

Is it conceivable that the army of men who are engaged in this work are to be compared with hyenas, vultures and cannibals? Are they less tender-hearted than the men and women who constitute so-called humane societies? Are these men whippers of wives, punishers of children? Are they found driving ill-fed, sore-shouldered, lame and blind horses? Where are they found but in a giving of relief to suffering humanity? Who ever heard of a physician being guilty of a wanton act of cruelty to any animal? Their very name and occupation mean peace on earth and good will to men.—*Cincinnati Lancet-Clinic.*

THE BANE OF PRACTICAL SANITATION

Indeed, it appears quite clear to us that the outbreak of the present epidemic of yellow fever was in no respect due to the lack of legislation, either National or State, for the prevention of epidemic diseases, nor to any lack of vigilance or neglect of duty under the national health laws. Legislation has been all sufficient for the occasion, but the fault is and has been the lack of organized effort for those who are entrusted with their execution, severally and jointly. Not one of our State Boards of Health is lacking in law—indeed, for the most part, the laws make it the duty of the State Boards of Health to organize and supervise local boards of health, and empowers them to enforce preventive measures. But these boards have been so constantly jealous of their exclusive rights and privileges that any effort to exercise the national health-laws, under the direction of the Surgeon-General of the Marine-Hospital Service, without express invitation is more vigorously fought than the disease against which they should jointly contend.

Moreover, the State Boards have organized themselves into a national conference. and they meet annually for the ostensible purpose of promoting preventive medicine. But on the subject of quarantine there appears to be no unity of either sentiment or effort, except it be in opposition to any interference of the Marine-Hospital Service, as if the duties of that service were not or could not be made helpful in the one primary object—the protection of the public health. The members—*all of them*—not merely the executive officers of the State Boards are supposed to possess that knowledge, and to *organize it.*

Organization implies co-operation, compactness, and method, based on actual knowledge of conditions. Had there been such organizations in the Gulf States, this epidemic of yellow fever would not have occurred, and had a case been introduced from abroad, the disease would not have spread.—*Sanitarian.*

THE AMERICAN MEDICAL-COLLEGE PLAGUE

American humanity of to-day is afflicted with a plague greater in magnitude and worse in its effects than the bubonic plague in India and all the plagues of Egypt combined. It is peculiar to the medical profession and it affects individuals and forms them into squads or rings for the purpose of self-admiration and public notice. It is due to a germ that the scientists of the world have been unable to identify, but clinically speaking, we know it is cephalus magnus, or the big-head. Now this is a misnomer and would lead the average student of human nature to believe that those who succumb to this peculiar ailment have a great depth of gray matter in their brains; that their craniums are large and dome-like, that their countenances show a marked degree of intellectual luster; that their actions betray a degree of moral training attained only by long practice, and that mentally they are in every way fitted for the drama they play. And while these symptoms of the disorder are characteristic they are but external and misleading. Let us turn the X-ray upon this paradoxical plague, and more closely examine its true nature. At a glance we recognize a doctor-of-medicine factory. There is not much else to be seen, except a lot of little wheels which are called professors that have been afflicted by the germ. Here, by the aid of culture-media known as the law, are produced, within this factory, doctors of medicine.

We do not refer to diploma-mills, where the parchment is procured by mail or messenger, but to the so-called reputable colleges, that play upon the ignorance of dummies they use in the manufacture of doctors, for money, and upon the too confiding public that indirectly suffers from the plague.

If mankind would in any way be benefited by the output of these factories we would remain silent. On the contrary we see where the society and world at large suffer from them.

In the first place these factories injure decent institutions by keeping some good people away from them; secondly, they do injustice to the article they turn out, by not giving it a thorough medical education; thirdly, they do much harm to those who employ them; lastly, they are baneful to the profession they must represent.—*Charlotte Medical Journal.*

SERUM-DIAGNOSIS OF TYPHOID FEVER

The diagnosis of typhoid fever has been considerably aided by the process which has become generally known as "Widal's test." The application of an observer's name to a disease, process, or test is not a satisfactory one, as is shown by the numerous terms under which exophthalmic goiter is known; but when one name has once become intimately associated with a disease or test. it makes confusion worse if the name is changed or another added. In the *Edinburgh Medical Journal* for this month a paper appears by Dr. Herbert F. Durham on "Serum-diagnosis," in which the writer points out that "if the name of any investigator is to be attached to the method of using the reaction of the blood-serum of patients on appropriate bacilli, it should be absolutely that of Professor Max Gruber, of Vienna," who was the first to suggest the method, and who urged others to make observations upon the specific agglutinating power of the blood-serum of persons who had passed through attacks of typhoid fever and cholera. Widal in Paris accepted the invitation given by Professor Gruber, published his results, and thus his name became associated with the test. While, therefore, giving to Professor Gruber all due credit for being the first to suggest this method of diagnosis, much confusion would result from substituting his name for that of Widal. The latter has done excellent service in elaborating the test and deserves full recognition for his labors. Many reports are now to hand as regards the value of the test, and the general consensus of opinion seems to be that in this reaction we have a great aid to diagnosis in doubtful cases. Dr. J. C. Da Costa, writing in the *New York Medical Journal* of Aug. 21, gives the conclusion he has arrived at from the observation of a large number of cases. He found that in more than 90 per cent. of cases of enteric fever a positive reaction may be obtained. In more than 90 per cent. of cases examined from the fourth to the seventh days of the disease inclusive a positive reaction may be obtained. In more than 3 per cent. of diseases other than enteric fever reactions are produced which are indistinguishable from typical typhoid reactions. Positive reactions are occasionally met with in individuals who have had enteric fever some months previously, but who are in good health at the time of the examination. Negative reactions are obtained with the blood of healthy persons who have not had enteric fever recently.—*Lancet.*

CURRENT TOPICS

ETHICS AND INDIVIDUALISM IN MEDICINE

Sir James Crichton-Brown, M.D. Edin., LL.D., F.R.S., in an inaugural address delivered at the opening of the winter session of Mason College, Birmingham, England, in October, and published in the *Birmingham Med. Rev.* (XLII, No. 230), chose as his subject "Ethics and Individualism in Medicine." He scores the tendency of the times that seeks to degrade will and ethics to the level of mechanics and to derive them from variation and natural selection. He acknowledges the data from which agnostics and materialists reason, but he combats their conclusions. He confesses that every tissue that enters into the composition of man's body has its analogue in the bodies of creatures far beneath him in the scale of being. Every organ with which he is endowed is seen in greater or less elaboration and completeness in the beasts that perish. Every function he exhibits is displayed in a rudimentary or fully evolved state by inferior organisms. He claims that notwithstanding all homologies and resemblances, there is a great gulf fixed between human and animal nature. Man, the breviary of all bygone evolution, stands pre-eminent in form, structure, intelligence, and above all in the possession of a moral sense.

This moral sense, he says, is not derived from the struggle for existence, but implies a reversal of the action that avails in that struggle. In his capacity as an animal, man has achieved his success in the world by his superiority in certain qualities which he shares with the tiger and the ape; by his cunning, his power of imitation, his greed, his rapacity, cruelty, and self-assertion; but in his capacity as a social being he has advanced from savagery to civilization by the suppression of these qualities and the substitution for them of others of a very different kind, qualities such as sympathy, self-restraint, justice, and benevolence, of which we have no hint at in any level lower than his own. In his advance into manhood he has created for himself an artificial, a social, an ethical atmosphere, which he alone of living beings breathes. In his progress in civilized polity he has prepared for his species an ethical environment which powerfully modifies its characteristics and tendencies, and is in turn modified by it. In that environment what we call goodness or virtue is the potent force, and the survival of the fittest becomes the survival of the best, the survival, that is to say, of those best adapted not to material but to moral conditions of existence. A new standard has been set up. Better and worse mean no longer more or less adaptation to geographical surroundings for the time being, but more or less conformity to laws, rules, precepts, and sentiments of artificial origin but of everlasting obligation.

Again he tells us that moral sanction has grown out of an element in human nature, the accumulated influences of individual men and the initiative of certain great men who have from time to time emerged from the mass of mankind and become active agents in differentiating the ethical environment around them and in all time coming. Everywhere in human history we discern not only the slow accretion of morality by the impalpable additions made to it by submerged millions, but its sudden upheaval from time to time by the workings of the spontaneous impulses of great men whose names stand forever prominent.

This immensely energetic quality, greatness, genius, or heroism, to which so important a part is assigned, is a departure from common form, and we must carefully distinguish between the causes which produce it and the causes which tend to preserve it. It is not an adaptive modification. It may be fostered, pinched, or blighted by environment; it is not produced by it.

After a review of the various theories of the causes of hereditary genius and high morality, he adds:

"But whatever his origin, the great man is an indisputable fact recurring with greater or less frequency. A wonderful complex of higher faculties not attributable to inheritance from either parent, or from any more remote ancestor, or to the play of investing forces, he comes with peculiarities which distinguish him from the average man and enable him to remodel the average man more or less extensively and powerfully. Selected by his environment and moulded and biassed by it in some degree, he does not owe to it his essential qualities."

Recounting the parts taken by the great men of history in moulding the character of their times, he turns to medicine with the remark that every chapter in its growth could be headed with the name of some great man whose inspiration was the spark that kindled enthusiasm and led to success. He recounts the names of Linacre, Sydenham, Harvey, Jenner, Charles Bell, Marshall Hall, Claude Bernard, Brown-Séquard, Hughlings Jackson, and Lord Lister as examples. Of Lister he says:

"Without a forerunner except Pasteur, by methods strikingly novel, in the strength of a fresh variety of intellectual power, he has reached discoveries which have already given check to the cosmic process in certain directions, and which must ultimately benefit the whole human race."

He fights fatalism with all his might, and declares that anything like a general lapse to predestinarianism would mean the extinction of ethics and the subversion of the race. To the students of medicine he says:

"It will be well for you during your curriculum to be on your guard against insidious suggestions of wholesale automatism, for there can be little doubt that the study of reflex action, investigated as it almost invariably is from below upwards, and not from above downwards, predisposes to that faith—an enervating faith—which reduces man to a mere pith ball in the jet of the fountain of events, helplessly tossed aloft, heedlessly falling, ceaselessly moving, as if animated, and yet the mere plaything of external forces. Apart from all the mystifications of logic and classifications of science, we have just as good evidence for the freedom of the will as we have for our own existence. You will feel and know, when you come to think of it, that you are not as Münsterberg would have you believe, a mere sequence of ideas, but have the choice amongst these, and that you are bound to exercise that choice in such a manner as to make your calling and election sure, utilizing your gifts, recognizing your responsibilities, taking advantage of your variations, and being responsive to your environment, thus fitting the place in which you find yourselves. Hold fast to the importance of the individual. Do not worry yourselves about the insignificance and evanescence of man."

After admitting the difficulties in the way of living a pure life, he continues:

"It requires ethical strength to be ethical. Revolt has always had a charm for the young. Agnosticism has almost come to be regarded as a sign of intellectual virility, reverence as a weakness of the knees. But ethical facts, which even agnosticism cannot relegate to the category of superstitions, stare us in the face, and an early recognition of their significance will help us to accommodate ourselves to our situation."

He tells us that to the medical man in actual practice ethics is of paramount importance, for he has to minister to more or less ethical beings, who will not be content to be treated as bits of mechanism, and the highest diagnostic skill and therapeutic precision will not save him from failure if he lacks sympathy with human suffering and frailty, and is unable to understand the emotional as well as the muscular heart. He needs an ethical outlook to guide him amongst the subtle moral problems that are submitted to him, and to support him in his resistance to the appeals of the natural man, who is still the slave of his animal instincts and destitute of spiritual ideals.

He blames modern teachings for the fact that the medical man is now frequently confronted by singularly confused and distorted moral views, the consequence of a kind of ethical astigmatism that is abroad. He is invited to give a professional prescription for incontinence or infidelity, or a scientific indulgence to bow down in the temple of the great goddess Lubricity. He is even complacently approached in the hope of securing assistance in a breach of the criminal law. It is not for him to be extreme to mark what is done amiss, for he comprehends better than others the infirmities of the flesh, and his pity shelters what his judgment condemns. It is not for him to censure or reproach those who seek his aid, however obviously their maladies may have arisen out of their own transgressions; that they are suffering is a sufficient passport to his skill. But it is for him when occasion arises to uphold the moral law, which is a bulwark of health as well as the chief cornerstone of felicity, and neither by connivance nor silence to countenance any infringement of purity of life.

H. H. HOLMES

Havelock Ellis, in the *Journal of Mental Science* (July, 1897), gives a résumé of the studies of Prof. Arthur MacDonald ("Report of the Commission of Education," Washington, D. C., 1896) and Dr. E. G. Talbot (*Journal of the American Medical Association*, Aug. 1, 1896) made of H. H. Holmes (or, to give him his proper name, Herman Webster Mudgett), during the last days before his execution, a qualified practitioner of medicine, whose extraordinary career of crime attracted world-wide attention, and has caused his name to be coupled with that of Wainewright.

Holmes was born in New Hampshire in 1861. Dr. MacDonald has accumulated a considerable amount of documentary evidence from persons who knew him in childhood and youth, and there is nothing to show that in early life his conduct was in any way abnormal. He belonged to respectable New England stock, who for at least three generations have been upright, God-fearing citizens, as are his cousins today. Of his immediate parentage nothing is positively known except that from Holmes' own statement his mother was an epileptic.

He marrried, soon after the age of 18, a woman who devoted herself entirely to his interests, and slaved to earn money to enable him to qualify in medicine, which he studied at the University of Michigan. Some of his teachers and classmates are now prominent physicians and have furnished interesting evidence to Dr. MacDonald.

He graduated in medicine in 1884, and for a time practiced his profession. In 1887 he abandoned his wife and child and bigamously married a Denver ladv: subsequently there appears to have been a third bigamous marriage. During the years between 1884 and 1894, however, his life is little known. During this period he built his celebrated "Castle," with its secret chambers and passages, dark-rooms, trap-doors, etc., and here he employed the female type-writers and others who mysteriously disappeared from time to time. For the most part, however, his murders seem to have been iudiciously distributed over the country. In his final confession—partly false, partly true—he admitted twenty-seven victims, but many of them are still living, so that the exact number cannot be known.

After his arrest, in 1896, he was 35 years old, 5 feet 7½ inches in height, weighing 150 pounds. In general appearance, says Dr. Talbot, he was not specially remarkable or repulsive, quiet, mild-mannered, like an ordinary business or professional man. But examination somewhat modified this impression. The occiput was asymmetrical and prominent, the bregma depressed, the left side of the forehead more prominent than the right, which was sloping. The hair was brown, and on body and face excessive. The face was arrested in development, the zygomas on right side arrested and hollowed. He was emaciated, presenting a consumptive appearance. The nasal bone was markedly stenotic. There were strabismus of the left eye, which was higher than the right, arrest of the thvroid gland and slight protrusion of the upper jaw, with arrest of lower. He was pigeon-breasted to a marked extent; the right arm was one and a half inches longer than the left, the sexual organs unusually small. Dr. Talbot concludes his examination thus: "In twenty years experience I have never observed a more degenerate being from a physical standpoint. His mental defects, so far as they existed, seem to have been confined to his moral sensibilities. Holmes was certainly a degenerate physically, as his numerous stigmata proved, but he was not more of one than many moral men and good citizens. There were, with the defects, undoubtedly a certain defectiveness and want of balance of the nervous system, but it cannot be said this necessitated the career he chose. There was, possibly, always a certain defect in his moral constitution which was checked in its effects by the restraint and training of his earlier years, and might have been overcome entirelv had his will been directed into proper paths. His case seems to be largelv, if not altogether, one of acquired moral obtuseness, not of complete congenital moral insanity."

Dr. MacDonald's examination was anthropometric, and especially, physiological. Among the numerous measurements mav be mentioned: Maximum length of head, 19.1 ctm. (7.52 in.); maximum width of head, 14.9 (5.86 in.); cephalic index, 78; nasal index, 63; height of palate, 20 mm. (0.79 in.); length of right ear, 6 ctm. (2.36 in.); length of left ear, 6.2 ctm. (2.44 in.) His sensations of locality on wrist were found to be more obtuse than normal (17 mm., 0.67 in.), and the left hand was less sensitive to heat than the right. Experiments with special kymograph for the purpose of measuring the effects of mental and emotional states by the movements of the chest, showed that the emotion of hatred was the prisoner's most intense line, while an effort to experience the emotion of affection had little more effect than reading the Bible, which had least of any. Like Dr. Talbot, Dr. MacDonald remarks that Holmes' chief psychological peculiarity was his marked tendency to lie, and from his abnormal height of palate, general demeanor, etc., classes him with neurotics. The two investigors are thus in fair agreement. It is unfortunate, however, that the heredity could not be exactly studied. U.

FROZEN-MILK INDUSTRY

"In Sweden and Denmark," so says *Laiterie* (France) (*Lit. Dig.*, July 10, 1897), "has been created a new industry that deserves notice. It consists of collecting at a central station the milk from farms within a given radius, Pasteurizing it at about 75°C., and then freezing it at the temperature of — 10° C. (+ 14° F.) The blocks of frozen milk are placed in stout wooden casks, holding about double the volume of the blocks, and the extra space is filled with sterilized milk, after which the casks are hermetically sealed. As they are perfectly full and are kept cool by the block of frozen milk, which melts very slowly, the shocks of transportation are powerless to churn the milk into butter and thus it may be preserved at least twenty days, so that the Danes and Swedes are now sending successfully to their neighbors, and even to England, whole cargoes of milk. We shall soon see, doubtless, Norwegian vessels unloading casks of milk in our ports." P.

SELECTED PAPERS

THE PATHOGENIC SPIRILLA OF THE SCHUYLKILL RIVER AT PHILADELPHIA*

By A. C. ABBOTT, M.D., and D. H. BERGEY, M.D.

(*From the Laboratory of Hygiene, University of Pennsylvania.*)

IN a former paper* by one of us (A. C. A.) attention was called to the fact that in the water of at least one American river, viz., the Schuylkill, at Philadelphia, pathogenic spirilla had been detected that possess the majority of the characteristics common to that group of spirilla whose most important member is the spirillum of Asiatic cholera. In the course of the investigation several questions arose, as to the frequency with which this variety was to be detected, its distribution in the river, and the possibility of its detection in water from other sources. Since the publication of these researches a part of the time at our disposal has been utilized in endeavoring to answer these questions. The results are embodied in this communication.

First: With regard to the question of constancy of occurrence. Is the presence of this organism in the river subject to seasonal variations?

In the studies of Dunbar upon the spirilla of the Elbe at Hamburg it was found that with the advent of autumn and winter, i. e., the onset of cold weather, the spirilla gradually diminished in frequency, and finally disappeared entirely from the water itself, though from time to time they were demonstrable in the mud from the bottom of the river.

Our studies, which have been continuous since June last, demonstrate the occurrence of spirilla in varying numbers in the water during all four seasons of the year. They were most numerous during the months of June, July, August, and September, after which they gradually became fewer, and during January and February of this year almost, though not quite, disappeared; becoming again more conspicuous with the beginning of March.

Whether the diminution observed during the autumn and winter months can be attributed to the low temperature of the water alone, we cannot say, but we incline to the opinion that this, together with the frequent flushing of the river and its tributaries, particularly sewers, by the heavy rains of autumn, has much to do with it.

Second: As to the distribution of the spirilla in the river. We have isolated them from samples of water collected at points situated a short distance apart, from practically all that part of the river that is within the city. They have been found at both high and low tides. We have also obtained them from a number of main and branch sewers that empty into the river on either side. They have also been isolated from the water drawn from the laboratory faucets, so that their presence in the river above the Fairmount dam, that is, above the points of greatest sewage-pollution, is certain. Concerning this latter point, however, it must be remembered that the water of the Schuylkill River, as pumped into the city reservoirs and mains, to be used for domestic purposes, is already charged, to a certain extent, with sewage from towns located farther up the stream.

Third: Concerning the presence of this group of spirilla in other American streams: the time at our disposal has permitted the investigation of but one other source of supply, viz., the Delaware River. Here we encountered the spirilla as frequently as we did in the Schuylkill and under essentially similar conditions. The spirilla isolated from the Delaware River and the sewage emptying into it did not differ in nature from those found in the Schuylkill and its tributary sewers.

An interesting question that arises in connection with these investigations relates to the origin of these bacterial forms. We have, as stated, encountered them both in the waters of the two rivers and in the effluents from sewers emptying into them. Do they occur in the rivers as a consequence of sewage-pollution, or are they in the sewage as a contamination by the river-water that in some cases backs into the sewers during high tide? We are inclined to the opinion that they are brought into the rivers with the sewage, but from what source they gain access to the sewage we cannot say. It would be interesting to know if in household slops, or in intestinal evacuations, either normal or pathological, such forms are to be commonly detected. We have always found them to be more numerous in sewage than in water from the middle of the rivers, but this might readily be referable to the more favorable opportunities that sewage, rich in nitrogenous matters, offers for their multiplication.

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* From the *Journal of Experimental Medicine.*

In all we have isolated 110 pure cultures of spirilla from the several sources mentioned. After subjecting them to the routine tests it was found that few or none of them were identical in every particular. At the same time they approached one another in so many features and to such varying degrees that we could not avoid the opinion that they were but modifications of some one, more or less distinct, species; in other words, that we were dealing with a group. the individuals of which were related to each other in a way suggestive of the relation between the typical Bacillus coli communis and the numerous varieties that are embraced within the so-called colon group of bacilli. For the sake of convenience, various attempts were made to classify them into sub-groups according to more or less conspicuous peculiarities, but in no instance has it been possible to draw sharp dividing lines.

With regard to pathogenesis: Because of the resemblance of these organisms to Vibrio metchnikovi,* with which we are strongly inclined to think them either identical or very closely allied, the pigeon was employed as the test object for their disease-producing powers. By this test we could readily divide them into two primary groups, viz., pathogenic and non-pathogenic, though many of the members of these two groups have a number of cultural characteristics in common. Many of those found to be pathogenic are but feebly so, and many of those found to be non-pathogenic possess most of the cultural characters of the fully and feebly pathogenic ones, indicating the probability of their being but attenuated specimens of the pathogenic group. We have been obliged, therefore, to subdivide these two primary groups according to their disease-producing properties for pigeons as follows:

1. Those that are distinctly pathogenic, causing death of the animal and producing constant pathological lesions after a more or less fixed interval of time.

2. Those that are feebly pathogenic. These may or may not cause the death of the animal, and the lesions resulting from their action upon the tissues are atypical.

3. Those that are non-pathogenic, but which possess, in a conspicuous degree, the majority of the cultural characteristics of those embraced within groups 1 and 2, especially the production of indol in considerable amounts.

4. Those that are non-pathogenic, and which differ in several of their cultural peculiarities from members of the other groups.

The organisms embraced within the fourth group may, perhaps, be regarded as forming a distinct class, for the reason that they all failed to give the indol-reaction when tested with sulphuric acid alone, though with few exceptions this reaction was obtained when they were subjected to the action of sodium nitrite and sulphuric acid; that is to say, they have the power to produce indol, but not to reduce nitrates.

The cultures of the first three groups showed more or less marked indol-production upon the addition of sulphuric acid alone; those of the first and second groups most decidedly so, while with those in the third group the reaction was variable, being quite marked with some, with others less decided. They all had, therefôre, the power of reducing nitrates.

These organisms may be divided into two groups also acccording to the structure of their colonies in 10-per-cent. nutrient gelatin. The first group comprises those individuals whose deep colonies are distinctly rosette- or mulberry-like, and which rapidly liquefy the gelatin, on coming to the surface, in the form of a funnel- or cup-shaped depression. The margin of these liquefying colonies is homogeneous, and their surface finely granular. The organisms forming second group possess somewhat variable cultural features. The deep colonies are less distinctly rosette-shaped, and sometimes show thread-like bands that interlace over the surface and around the margin. After liquefaction has set in, the margin of the colony is less homogeneous than in those of the first group, the surface is coarsely granular, and masses of the colony are to be seen floating in the liquefied pit.

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* See the *Journal of Experimental Medicine*, i (1896), p. 427 et seq.

If we attempt to classify them according to some of their other biological characters we are able to group them in several different ways; yet none of the groups so formed is very definite, and most of the individuals in one group are different from those allied with them under some of the other modes of grouping.

With regard to their growth on potato we may classify them into three groups: (1) those growing luxuriantly on potato; (2) those growing only sparingly; and (3) those showing no visible growth.

With regard to their development on Loeffler's serum mixture they fall into four groups: (1) those that rapidly liquefy the serum; (2) those that slowly liquefy it; (3) those in which liquefaction is so slight as to be doubtful, and (4) those that cause no liquefaction.

As regards indol-production it is possible to classify them into five groups: (1) those that show marked indol-production on the addition of sulphuric acid alone; (2) those that show feeble indol-production on the addition of sulphuric acid alone, but in which the color-reaction becomes very much intensified on the further addition of sodium nitrite; (3) those that show no reaction on the addition of sulphuric acid, but show marked reaction on the further addition of sodium nitrite; (4) those that show no reaction with sulphuric acid alone and only a slight reaction with sulphuric acid and sodium nitrite, and (5) those that fail to reveal the presence of indol when treated with both the acid and the reducing body.

With a few exceptions the individual members of the several groups formed in either of these ways are not identical in all respects. The type of organism most frequently encountered is identical with the vibrio that formed the topic of last year's communication, and at the time was designated as Vibrio schuylkiliensis.*

The other organisms differed from this type in one or more characteristics. With some the variation is quite insignificant, with others it is more marked; while those that are most unlike this type still possess features which are common to the type, and in this way render definite grouping impossible.

The morphological characters of the different organisms also vary somewhat. They vary as to length and thickness, and also with regard to the length of spirals formed. Some of them rarely occur as other than short "comma" forms, while others exhibit a tendency to develop as spiral threads comprised of three or four single commas joined together. Others are prone to grow into much longer spiral threads in old cultures. These morphological tendencies afford no assistance in our efforts at classification, because those that are alike from this standpoint are frequently unlike in their other peculiarities.

We have also endeavored to detect differences between these cultures through the employment of the specific reaction that occurs between certain pathogenic bacteria and the serum from animals infected with or artificially immune from them. For this purpose animals were rendered immune from several of the more conspicuously pathogenic members of the group, and the serum from them was tested upon the various cultures by the ordinary hanging-drop method now employed in connection with the diagnosis of typhoid fever. As far as these experiments have gone, we have not obtained a complete reaction, as indicated by agglutination of the individual bacteria and cessation of motion; the nearest that we have been able to come to this has been agglutination with only partial cessation of motion. The reason for this may be that our animals were not brought to a sufficiently high state of immunity, being protected from only about ten times the fatal intraperitoneal dose. At all events, the serum from such animals (guinea-pigs), as well as the serum from animals in the height of acute infection, did not in any case give us what we would regard as a typical and satisfactory reaction.

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* The *Journal of Experimental Medicine*, i, 419.

Two of the cultures that were pathogenic, but which from their cultural peculiarities might be regarded as less alike than the remaining members of the group, were used to immunize guinea-pigs. After bringing the animals to a stage of immunity in which they resisted about ten times the fatal intraperitoneal dose, the serum from the one, immune from what we shall call type *a*, gave the partial reaction with a large proportion of the cultures; while the serum of the animal immune from the type *b* gave the partial reaction with but a very small number of the cultures. The serum from the animal immune from type *a* gave no reaction with type-culture *b*, nor did the serum of animal *b* react with type-culture *a*. On the other hand, a number of the cultures reacted to some extent with both serums, and a smaller number were unaffected by either serum, though with one exception the cultural peculiarities of these latter were essentially identical with those that gave the reaction.

As a result of our efforts to differentiate these cultures by further experiments upon animals, we have found that when guinea-pigs were rendered immune from a single more or less typical member of the group, they were at the same time immune from five times the fatal dose of all the other pathogenic varieties.

In the light of the foregoing differential tests we are inclined to regard all the cultures obtained by us as varieties of a single species, the important characteristics of which are those given for the spirillum described by one of us (A. C. A.) in the paper published in the preceding volume of this journal.* The apparent absence of certain physiological functions, such for instance as that of indol-formation and nitrate-reduction, we do not, under the circumstances, regard as of the same degree of diagnostic importance as was formerly the case, for in the light of the experiments of Dr. Peckham, published in this number of the *Journal*, we know that these functions are liable to fluctuation, and that by special methods of cultivation they may often be restored to organisms from which, under the influence of environment, they were temporarily lost or very much diminished in degree.

The interesting and important outcome of these experiments seems to us to be the demonstration in the waters examined of spiral forms possessing characteristics that might readily lead one to mistake them for the genuine cholera spirillum, should the existence of suspicious intestinal disorders in the neighborhood appear to warrant such an opinion.

Many of the spirilla obtained by us are of the usual size and shape of the cholera organism; they produce indol and reduce nitrates; their colonies are sufficiently like those of the cholera organism to easily cause error: they are often without pathogenesis for pigeons when inoculated subcutaneously, a property common to the comma bacillus, while intraperitoneal inoculation of guinea-pigs is fatal, and death is preceded by the gradual fall of body-temperature that is seen to occur in these animals when inoculated in this way with virulent cultures of the cholera spirillum; and like the latter organism our spirilla are not pathogenic for rabbits.

While the pathogenesis of the typical members of this group for pigeons at once distinguishes them from the spirillum of Asiatic cholera, the absence of this property from many of the attenuated varieties, which at the same time often retain the property of infecting guinea-pigs by intraperitoneal inoculation, when taken together with the striking similarity between their general biological peculiarities, renders a mistake quite possible.

It is our opinion that the only trustworthy distinction that can be made between many of these varieties and the genuine cholera spirillum is through the employment of either the specific reaction with serum from animals immune from cholera, or by Pfeiffer's method of intraperitoneal testing in such animals. These latter methods have not been employed by us.

The desirability of more extended knowledge of the nature and distribution of the spirilla in our American surface streams we hope, by these studies, to have made manifest.

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* Loc. Cit.

AMEBOID BODIES IN THE BLOOD OF VACCINATED MONKEYS AND CHILDREN, AND IN THE BLOOD FROM CASES OF VARIOLA*

An Experimental Study.

By WALTER REED, M.D., Surgeon, U. S. A.

EVEN prior to the introduction of Koch's improved methods, Cohn had described his Micrococcus vaccinæ. Chauveau and Sanderson had demonstrated that the active ingredient contained in vaccine lymph could be removed by filtration.

The possibility of making use of solid culture-media gave a new impulse to the search for the causative agent of vaccinia and variola, which has been assiduously continued since that time, as a rule, along the line of bacteriological research.

During the past ten years, and more especially during the last half-decade, attention has been turned toward the possibility of the animal nature of the parasite of vaccinia and variola.

The first attempt to cultivate the supposed parasite of vaccine lymph was made by Guarnieri (9) in 1892. He first studied the changes which occur in the epithelial cells of the skin during the prepustular stage of small-pox. He always found certain small bodies half the size of the nucleus, or much smaller, which occupied the protoplasm of the affected epithelial cells and stained uniformly and regularly. The little bodies were of various shapes, most often roundish, with irregular margins.

At the suggestion of Surgeon-General Sternberg I took up this line of investigation about one year ago, directing attention at first to the microscopical examination of the blood of vaccinated monkeys and calves, and later to that of children and small-pox patients.

The work was begun in April and continued with slight interruptions until September, 1896. Except in the examination of the blood of small-pox patients, I was assisted by Dr. W. W. Gray, of the Army Medical Museum, and Dr. James Carroll, Assistant in the Laboratory of the Army Medical School.

The investigation was entirely confined to the study of fresh preparations of blood which were examined with the greatest care, one at least of the observers making use of a mechanical stage for this purpose. During the earlier experiments the blood was examined only at the height of vaccination (seventh and eighth day). In the later experiments the period of examination was extended to cover the time from the day of vaccination to the subsidence of this process, and in several of the experiments the blood was examined during a number of days preceding and following vaccination.

The results obtained are believed to be of sufficient interest to warrant their report.

In all the vaccinations except one, glycerinated calf's vaccine was used. In the excepted case fresh monkey's vaccine was inoculated.

The examination of the four animals—three monkeys, one calf—first experimented upon was entirely negative. The succeeding experiments gave more encouragement.

Of eleven animals—nine monkeys, two calves—the blood of seven—six monkeys and one calf—contained during the stage of fever attending a successful vaccination certain extra-cellular, small, granular ameboid bodies which did not correspond to any of the normal elements of the human blood. A fact which appeared of additional interest was the discovery of quite similar ameboid bodies in my own blood five days after an accidental vaccination on the finger with fresh monkey's lymph. These bodies were present till the tenth day, but could not be found thereafter.

The time of appearance of the bodies in the blood of the vaccinated monkeys was as follows: Fifth day, 2; sixth day, 4. There was observed, however, in the blood of one of the monkeys (Experiment 10), twenty hours after vaccination, an ameboid granular body like that which had been seen to appear toward the end of the first week after vaccination. No other bodies were found thereafter in this particular animal's blood until the sixth day. The bodies disappeared as follows: Twelfth day, 3; thirteenth day,

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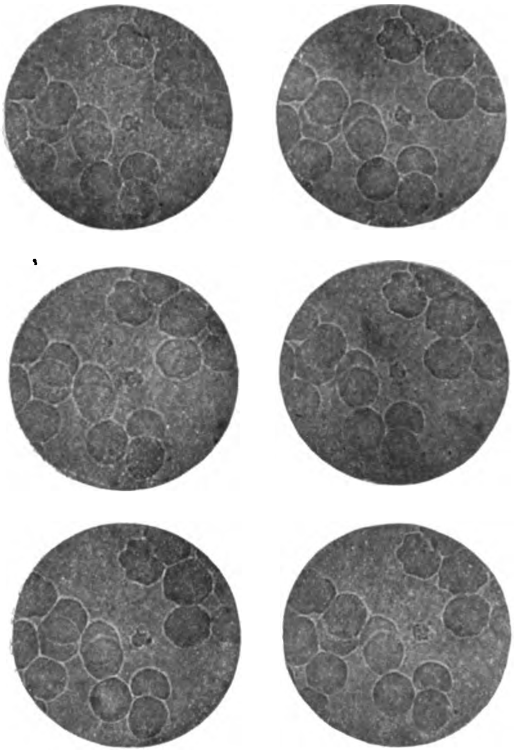
* Condensed from the *Journal of Experimental Medicine.*

1; fourteenth day, 2. In the one positive experiment with the calf they appeared on the third day and could not be found after the seventh day.

As these rather interesting bodies had been found in the blood of the seven animals last experimented upon, it was considered advisable to continue the investigation with vaccinated children. In this second series of experiments the blood of five children was examined—three white, two black.

Of five children whose blood was carefully studied during the period of vaccination, three (two black, one white) gave a positive, and two (both white) a negative result, as far as the finding of the small granular, ameboid bodes was concerned. The case in which a granular body was seen in the blood taken thirty minutes after vaccination, but did not appear thereafter, is classed as negative. The bodies appeared in two cases on the sixth and in one on the seventh day; they disappeared from the blood in two cases on the fourteenth and in one case on the seventeenth day.



A granular ameboid body, blood of negro child, eighth day of vaccination. Photomicrographs taken at intervals of about thirty seconds.—× 1,000.

When the latter experiments were about completed the occurrence of an epidemic of small-pox on the Island of Key West, Fla.,* afforded the opportunity for the microscopic study of the blood of this disease. Unfortunately for these studies, upon my arrival the epidemic had about spent itself, so that only three cases could be examined.

Of these three cases of variola, the small granular ameboid bodies were present in the blood of two and absent in that of one (blood examined on the eighth day of eruption only). Paler ameboid bodies were found in the blood of three, their appearance being as early as the fourth day of eruption. In two cases they were found on the seventh and eighth day of eruption, respectively. In two cases they were not found on the ninth day.

In view of the results obtained from a study of the blood of variola, it was considered advisable to study the blood of variolated monkeys. Hence soon after my return the following experiment was made:

Monkey. Variolated August 8, 1896, with fresh lymph taken from a discrete case of small-pox, seventh day of eruption. Successful. This animal's blood had not been examined prior to inoculation. First day's examination is negative. On the third day after vaccination small finely granular ameboid bodies are observed. These are seen on the fourth, fifth, and sixth days. There are also found on the fifth and sixth days a few pale ameboid bodies, in diameter one-half that of a red cell. These exhibit active movements and contain a few dark pigment-like granules.

They resemble the pale ameboid bodies seen in the blood of variola.

Examination on the seventh, eighth, and ninth days is negative.

In view of Pfeiffer's statement that small ameboid cells are to be seen during the stage of fever in the blood of vaccinated children and calves, the discovery in the blood of vaccinated monkeys, also, during the stage of fever, of granular ameboid bodies much smaller relatively than any of the white elements heretofore described in normal human blood, naturally aroused much interest as to their true character. Their disappearance, too, about the end of the second week, did not lessen the important and intimate relation which these bodies appeared to bear to the local inflammation. Their minute size, their active ameboid movements, the persistency of the latter, together with the occasional phenomenon of phagocytosis, all seemed to point to the parasitic nature of these bodies, as claimed by Pfeiffer.

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* Through the courtesy of Dr. J. Y. Porter, State Health Officer, and Dr. Jos. H. White, Passed Asst. Surgeon, U. S. M. H. Service, officer in charge of the small-pox hospital, Key West, Fla., every facility was afforded the writer in conducting this investigation.

The discovery, however, of a similar body in the blood of a monkey within twenty-four hours after vaccination, and in the blood of a child thirty minutes after vaccination, necessarily raised a doubt as to their causative importance. It seemed possible, after all, that such bodies might be occasionally found in normal blood and that during vaccination they might appear in larger numbers in the general circulation. This led to a thorough search for these diminutive bodies in the normal blood of monkeys and children. As a result of this search there was found in the blood of one monkey and of one negro child, prior to vaccination, a body having the same appearance and size as those seen in the blood of vaccinated animals. The failure to observe this small granular body heretofore in normal blood must be attributed to its extreme scarcity and relatively small size. The tendency, too, to overlook such small bits of protoplasm would be natural, since on casual inspection they might readily be mistaken for parts of a fragmented leucocyte.

The origin of these small granular bodies, rarely seen in normal blood, as well as their possible identity with those bodies observed by Pfeiffer and myself in the blood of vaccinated animals and children and in that of small-pox, must be left to future observation to determine. Their appearance in the general circulation in vaccinia about the end of the first week, in such numbers that a few may be found in every well-made preparation of blood, and their prompt disappearance about the end of the second week, is indicative of their importance, whatever may be their real significance.

The pale ameboid bodies which were observed in the blood of three cases of small-pox and of one variolated monkey will, it is hoped, attract the attention of other investigators. Bodies such as these have not been found, during this investigation, in the normal blood of animals or children.

CONCLUSIONS.

1. The claim of L. Pfeiffer that small granular ameboid bodies are present in the blood of vaccinated children and calves, and in the blood from cases of variola, during the stage of fever is confirmed. A nucleus has not been positively made out in any of these bodies.

2. Granular ameboid bodies, having a diameter of about one-third that of a red blood-cell, appear, also, in the blood of the monkey during the active stage of vaccinia and disappear with the decline of the local inflammation.

3. A body of like appearance, granulation, and size may occasionally be found in the normal blood of monkeys and children.

4. Pale ameboid bodies, containing a few dark pigment-like granules, are present in the blood from cases of variola and in the blood of the variolated monkey. Bodies of like appearance may occasionally be found in the blood of vaccinated children and monkeys.

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Sozoiodole in Diseases of the Nose and Throat

Dr. Morcinowski writes in the *Aerzt. Rundschau* (Vol. VII, No. 29) that the salts of sozoiodole have proved themselves remarkably effective in his hands in the diseases of the nose and pharynx. He uses a mixture of menthol, zinc-sozoiodole, and boric acid, and thoroughly inflates with it the upper air-passages by the means of a pulveriflator. He has cured himself of a severe catarrh of eight years' standing by means of this mixture; but he had to employ it for several months.

He has used the combination in very different affections, acute and chronic, and with invariably good results. In follicular tonsillitis he uses also, in conjunction with the powder, a 1- to 2-per-cent. solution of sodium-sozoiodole by the means of a spray. The same treatment he employs in diphtheria, and the results have been so favorable that he has not yet felt called upon to employ antitoxin. M.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Joseph P. Winston, M.D., George E. West, M.D.,
W. J. Robinson, M.D., L. Schöney, M.D.

Heart-tracings in Basedow's Disease

In the *Gaz. degli ospedali*, 1897, 25, Fevian gives a series of graphic curves illustrating the efficiency of the heart in this condition. He finds that the rhythm is changed and also the type of contraction, which latter is similar to the curve caused by irritation of the vagus. One curve is given of a case in which thyroidectomy had been performed. It shows the return of the heart to the normal. J.

Pyloric Stenosis and Hypersecretion of HCl

Drs. A. Carle and G. Fantino (both of Turin) contribute an original article to the *Med. Week.*, Aug. 6 (Vol. V., No. 31, pp. 361-363, 1897). They refer to the discussion of Prof. Hayem's paper before the Paris Academy, given in the *Med. Week.*, pp. 236, 249, 1897, to show the lack of agreement on the subject.

Hayem asserts that the gastrosuccorrhea of the so-called Reichman's disease is always caused by a partial mechanical stenosis at or below the pylorus. Debove holds that the gastrosuccorrhea may occur and exist a long time without such stenosis. Robin agrees with Hayem that the gastrectasy is due to some obstacle at or below the pylorus, but holds that it may be merely functional, i. e., spasm, ending in stricture, and that hypersecretion of HCl is the first phenomenon in the history of such cases. The pathology is very important to the physician and the surgeon, because of the therapeutic action to be based on it.

Out of forty-one non-cancerous cases operated upon by Carle in the Ospedale Mauriziano of Turin, nine evidenced permanent spasm or stricture of the pylorus. All of these nine had a "large quantity of residual liquid in the stomach, even in the morning before the ingestion of food." There was no true stenosis. In none of them was it a case of atony, because the stomach contracted forcibly under irritation, mechanical or chemical (palpation or food), and threw vomited matter three feet away; besides, the walls of the viscus were notably hypertrophied and there was no infra-pyloric stenosis.

In one case the pyloric spasm was the result of swallowing 50 gme. of nitric acid. Vomiting persisted after the acute condition. Emaciation became extreme. Operation revealed normal pylorus and an ulcer on the anterior aspect of the duodenum, 3 or 4 ctm. below the pylorus. The retention here was from spasm, the result of the gastritis caused by the caustic acid.

In most cases such manifest cause for the spasm cannot be found, but hyperacidity is almost always present. The spasm disappears when an alkaline salt is given. Ewald and Boas, von Pfungen and Ullmann have shown that average acidity (1.2 per 1000) excites peristaltic action; whereas, a high acidity (2.5 per 1000) causes spasm of the pylorus, interference with the progress of food to intestine, retention and dilatation. Von Mering, Hirsch, and Moritz have shown by experiments that the pylorus is closed during digestion, under normal conditions, till the food has become pulpy. Hyperacidity with amylaceous and proteid food brings on spasm of the pylorus and retards digestion and causes retention. But spasm causing retention may also produce hyperacidity. The difficulty is in knowing "whether the spasm of the pylorus or the hyperacidity is the primary affection." The authors think that the primary trouble lies in spasm of the pylorus, due to lesions which escape our investigations, and that the retention brings on hypersecretion of HCl, and this in turn aggravates the abnormal conditions of the pylorus.

In twenty of the forty-one non-malignant cases operated upon, there was marked hyperacidity; in seventeen of these the hyperacidity definitely ceased on surgical removal of the obstruction, which argues against the hypersecretion of acid being the primary affection.

When the disease is left to itself, the first cause of the pyloric spasm continues to act, the spasm is aggravated in turn by the resulting hyperacidity, and fibrous stenosis is inevitably developed. The authors, as well as Dr. Doyen, have seen true annular stenosis with hyperplasia and without trace of progressive ulceration. This explains why the worst cases of hyperacidity and gastrosuccorrhea are associated with fibrous pyloric stenosis. It also explains why Dr. Robin, thinking of spasmodic cases of gastrosuccorrhea without fibrous stenosis, claims they may be cured by a purely medicinal treatment; and why Prof. Hayem, who based his opinion on postmortems and surgical cases which had already run through all the stages of evolution into the state of fibrous stenosis, regarded every case of gastrosuccorrhea as dependent on mechanical obstacle, curable only by operation.

One case of Reichman's gastrosuccorrhea in which all medicinal treatment had failed, was found to be affected with fibrous stenosis of the pylorus with peripyloritis. A posterior gastroenterostomy effected complete cure. In three months patient had gained forty-eight pounds in weight. There was no excess of acid after the operation. A similar case, in which the acidity was 5 or 6 to the 1000, was treated by means of anterior gastroduodenostomy for the fibrous stenosis. The operation failed; hyperacidity and retention continued—a remarkable association, suggesting cause and effect. Debove's claim that there are cases of primary gastrosuccorrhea without stenosis, seems less tenable, though not disproved, by the fact that in all cases of hyperacidity operation showed gastric retention and caused removal of the hyperacidity. A diagnosis of Reichman's disease—gastrosuccorrhea—always suggests the possible existence of pyloric stenosis; and as Reichman's disease is admitted to be incurable by purely medicinal treatment, exploratory laparotomy with a view to gastro-enterostomy, or pyloroplasty is advised.

Dr. Doyen prefers gastro-enterostomy, and Prof. Mikulicz (*Med. Week.*, 1897, p. 193) pyloroplasty. Keeping in view (1) the death-rate; (2) the changes in the general condition of the patient, produced by the operation, the authors, with experience in both, find the death-rate equal, and the choice to lie in favor of posterior gastroenterostomy, with the use of Murphy's button.

For one or two months after gastro-enterostomy bile flows back into the stomach, but does not disturb digestion, nor otherwise lessen the cure. The stomach empties itself more quickly even in four or five hours after a test meal. This brings about diminution of the size of the stomach. The new pylorus becomes more and more retentive, develops a new sphincter, and stops regurgitation of bile. Subsidence of hyperacidity takes place from the moment the gastric retention is relieved. An insufficiency of secretion may remain even after the motor functions have been improved.

After pyloroplasty there is no regurgitation of bile, the motor function is completely restored and evacuation is regular, though not so rapid as after gastro-enterostomy. Improvement in general condition is equal. The above is true in all hypersthenic cases; but in hyposthenic subjects (atony with hyposecretion), pyloroplasty fails. The rapid evacuation of the stomach and perhaps the regurgitation of bile cause more rapid disappearance of hyperacidity in gastro-enterostomy than in pyloroplasty. Gastro-enterostomy may be done in all cases; but pyloroplasty is impossible or dangerous with atony and hyposecretion, or with extensive or marked induration. But pyloroplasty is preferable in spasmodic cases with only slight cicatricial stenosis. Resection of the pylorus should be restricted to cases in which diagnosis is doubtful between simple stenosis and cancer. H.

The Effect of Laparotomy in Peritoneal Tuberculosis

That laparotomy, *per se*, may have beneficial effects in peritoneal tuberculosis has been asserted by several observers (*Med. Times and Hosp. Gaz.*, No. 1016). Experiments on rabbits have led Vossilevsky to the following conclusions:

1. The operation alters the histological character of the tuberculous growth in increasing the epithelioid cells and in diminishing the number of the white elements.
2. It checks the general dissemination of the tuberculous process.
3. It reduces the number of the bacilli.
4. It promotes the resorption of the decomposition-products.

Gatti says that, after many experiments on guinea-pigs, dogs, and rabbits, he found that laparotomy has no effect when the tuberculosis is in an early stage. He thinks that healing takes place by degeneration of the epithelioid cells, independently of phagocytosis. One, two, or three days after the operation abundant serous fluid is found which seems to saturate the tuberculous mass, exerting a bactericidal effect on the bacilli. M.

Gelatin in the Treatment of Aneurisms

At the meeting of the Paris Academy of Medicine, held June 22, 1897 (reported in *Therap. Wochen.*, 1897, p. 670), Dr. Lancerneaux said that the fact established by Dastre that solutions of gelatin increase the coagulability of the blood, had induced him to try to produce a firm coagulum in an aneurismal sack. The patient was a man 46 years old, who suffered from an aortic aneurism. It was of the size of a child's head, measuring about five inches in each diameter. The second, third, and fourth cartilages, with portions of the corresponding ribs, and a large portion of the sternum, became eroded, the pulsations were distinctly visible and palpable, the skin over the aneurism became thinner and thinner, and the pains the man suffered were excruciating.

As rupture of the aneurism seemed imminent, 50 c.c. (1½ oz.) of a sterilized 1-per-cent. gelatin solution in a 1-per-cent. salt solution were injected in the left gluteal region. A slight erythema developed around the place of injection, and the temperature rose to 100.5° F. On the next day the tumor was somewhat firmer and the pulsations weaker. During the next few days the pains diminished and the tumor became smaller, but soon it reached its former dimensions, the pulsations became stronger and the pains became as violent as before. The injections were then again commenced. In a period of three months twelve injections of 150 c.c. (4½ oz.) each, of the same solution, were administered. These were accompanied by no reaction, either local or constitutional. The tumor has diminished in size, is very firm, and the pulsations, which still can be felt on palpation, are not transmitted in all directions, as formerly. The pains have disappeared entirely. This method is well worth a trial, as it is perfectly harmless. M.

Apoplexy without Paralysis

Dr. M. Allen Starr (*Med. Rec.*, Vol. LII, No. 20, p. 689) says that the physician as well as the layman is hardly able to think of apoplexy unassociated with paralysis. But this is wrong. The reason that the former is often associated with the latter is because hemorrhage and embolism are most common in the domain of the middle cerebral artery, which artery supplies the motor area of the brain. But let some other vessel—the anterior or posterior cerebral artery or a branch of the basilar artery—become ruptured or obstructed, and the motor area will escape, and there will not necessarily be any paralysis. The symptoms will vary according to the area of the brain affected. The histories of ten cases are reported in detail, in which the suddenness of the attack and the other features left no doubt as to the lesion being of an apoplectic character, but in which there was no noticeable hemiplegia or aphasia.

In the first four cases reported the symptoms were principally of a mental and emotional character: confusion and dulness, inability to concentrate the attention, attacks of crying and laughing without any cause, etc. These symptoms, together with the sudden severe pain in the frontal region, justify us in making a positive diagnosis of a lesion—hemorrhage or thrombosis in the frontal lobe, i. e., in the domain of the anterior cerebral artery.

Case No. 5 was suddenly seized with a sensation of numbness and coldness in the left foot, which extended up the leg, involved the side of the body and the arm, and side of the neck (not the face). The sensation of coldness was intense and remained stationary for several years. Though not yet positively settled, the author believes in the existence of receptive centers for the sensation of touch and temperature in the parietal lobe, and hence he locates the lesion in this case within the parietal lobe beneath the cortex.

Case No. 6 had an attack of vertigo and a sudden obscuration of vision in the left eye; this dimness of vision proved to be a bilateral left hemianopsia.

Case No. 7 had a sudden attack of faintness and a slight convulsion; great prostration and confusion of mind followed. In this case an examination also showed a bilateral hemianopsia..

In the last two cases the lesion was clearly in the domain of the posterior cerebral artery.

Case No. 8 was suddenly seized with a sensation of numbness which soon included the entire left side of the body and right side of the face: so-called alternating hemianesthesia. The affected parts were as if asleep or dead. There were difficulty in swallowing, marked nystagmus on any attempt to conjugate action, eyes felt "as if they were set in stone," movements of left extremities were extremely ataxic, but there was no loss of power. In this case the lesion was evidently in the pons varolii.

Cases Nos. 9 and 10 presented symptoms of a cerebellar nature: vertigo, vomiting, a staggering gait, etc. The condition of the eyes, ears, and stomach was perfect, the vertigo was never felt when the patients were lying down or seated, and was permanent and continuous for years. The diagnosis was: a small vascular lesion in the cerebellum, affecting the mechanism of equilibrium. As to the prognosis and treatment of such cases, they are practically the same as in cases of apoplexy which are accompanied with hemiplegia. M.

The Protecting Rôle of the Liver in Respect of Anthrax

At the October 9, 1897, meeting of the Paris Biological Society, Dr. Roger stated (*Medical Week*, Oct. 15, 1897) that microbes introduced into the blood are deposited in the capillary network, but their action is not the same in all capillaries. It is possible that they are destroyed in some places and develop in others, according as they find unfavorable or favorable conditions for development.

To test this theory, Dr. R. injected into rabbits more or less diluted cultures of the Bacillus anthracis through various vessels. It was thus ascertained that the animal is killed most rapidly by injections at the origin of the aorta, by means of a long cannula introduced into the central segment of the carotid. Rabbits inoculated through the peripheral segment of the crural artery succumb with almost equal rapidity. Next after the latter, those who have been inoculated through the veins die, and then those inoculated through the peripheral segment of the carotid artery. Animals into which the virus has been introduced through a vein of the portal system survive.

The last fact indicates that the liver exerts a protecting action in respect of the Bacillus anthracis. Dr. Roger endeavored to measure the extent of this protecting action, with the following results:

With a very virulent culture, diluted in the proportion of 1:2000, all animals die after having received in the peripheral veins five drops of the liquid. If the injection is made through the portal vein, as much as 4 c.c. (65 m.) of a 1:500 dilution may be introduced, without killing the animal. In other words, while ⅛ c.mm. (¼ m.) is invariably fatal when injected into the peripheral veins, 8 c.mm. (12.8 m.) injected through the portal vein produce no ill effect. The liver is consequently capable of neutralizing 64 times the lethal dose of the Bacillus anthracis. B.

The Nerves of the Heart and the Thyroid Gland

M. E. de Lyon (Academy of Science, France) has discovered the physiological destination of the third branch of the depressor nerve which forms an anastomosis with the superior cervical ganglion, also with another branch of the same nerve coming from the superior laryngeal. Excitation of this third branch causes a diminution of arterial pressure, very often accompanied by an acceleration of cardiac pulsations, especially if the two pneumogastrics have been previously divided. At the same time a slight but persistent contraction of the two pupils is produced. The branch which proceeds from the superior laryngeal—the largest in the rabbit—serves to put the heart in direct communication with the thyroid gland, and causes the heart to intervene in the function of this gland. The cardiac filaments of the inferior laryngeal nerve have probably the same destination physiologically. The iodothyrine of Baumann, when introduced into the circulation of the blood, exercises a pronounced action upon the nerves of the heart and the vessels, and particularly upon the function of the depressors. In certain phases of this action the excitation of the depressor nerve sometimes provokes so strong a force of blood-pressure that the animal succumbs because of the inability of the heart to recover from the pressure. These new researches demonstrate the existence in the depressor nerve—besides the well-known centripetal nerve-fibers—of others capable of reflex action upon the accelerator nerves, and the oculomotor apparatus, and directly upon the thyroid gland. This diversity of functions of the depressor nerve, and also the reciprocal influence that the heart and the thyroid gland can exercise upon each other by the intermediation of this nerve, permit an explanation of the principal symptoms of Basedow's disease, or exophthalmic goiter, the cardiac symptoms and the persistent diarrhea, from paralysis of the splanchnic nerves, by the different actions exercised by the depressor upon the great sympathetic. L.

The Serum-therapy of Yellow Fever

The *Brit. Med. Jour.*, No. 1921 (Oct. 23, 1897, pp. 1191-1192), refers to a Reuter's telegram from Montevideo, where, on Oct. 13, Prof. Sanarelli in a lecture "expressed the hope that serum obtained from vaccinated animals would be efficacious for the cure of yellow fever in human beings." It then proceeds to give an account of Prof. Sanarelli's experiments on the horse from which he has obtained the curative serum, as these are detailed in *Il Policlinico* of Sept. 15, and the *Annali di Med. navale* for Sept.-Oct., in a paper dated July 24, 1897.

Recent serum from the bodies of those who had died of yellow fever "had no preventive power in respect to the specific bacillus."

Serum from a yellow-fever convalescent, which gave the Grüber-Durham reaction very slowly, manifested a weak protective action in animals in respect to the Bacillus icteroides. Two c.c. of the serum used twenty-four hours before that of the virus in a guinea-pig prevented death in most cases; but it failed to do so when injected at the same time as the virus.

Guinea-pigs could be vaccinated successfully only after a long period of from six to eight months.

Dogs bore multiple doses badly and suffered from prostration.

The ox tolerated subcutaneous injections best, without local swellings, but failed to tolerate endovenous injections.

The horse was found most available. In a young and healthy half-bred animal he first injects from 5 to 10 c.c. of the filtered cultures, which is followed by several days of fever. Because of ulcerations and febrile action, the injections are soon made intravenous (external jugular). The rise of temperature with these is slight, and for but a few hours. But, on increase of the dose, the *malaise* is profound and the injections can be given only at long intervals. After two months of filtered cultures, cultures simply sterilized with ether may be used. After five or six months small doses of the living culture can be used which cause general reaction; after reaction repetition, with slight increase from 5 to 10 c.c. (81 to 162 m.)

His first horse died suddenly, after having been under treatment seven months, and having received 760 c.c. (25.5 oz.) of filtered culture, 2 liters (67.5 oz.) of sterilized culture, and 240 c.c. (8 oz.) of living culture, and without having been bled.

His second horse, after five months' treatment, in which it had received 29 c.c. (1 oz.) of filtered culture, 2640 c.c. (89.25 oz.) of culture sterilized with ether and 35 c.c. (1.2 oz.) of living culture, was bled of one liter of blood. This proved to have a weak preventive action in guinea-pigs when 5 c.c. (81 m.) of it were given twenty-four hours before the subsequent injection of a mortal dose failed to cause death. In the next two months every four or five days 35 c.c. (1.2 oz.) of broth-culture were inoculated, the reaction lessening as the doses multiplied. On the seventh day after, and for each of three weeks, gelatin-cultures were given endovenously, first one, second two, and third three cultures. The reaction being excessive after the last, the dose was reduced to two cultures, which were given every six days.

When the horse had been nine months under treatment, 500 gme. (16.4 oz.) were bled, and this serum, if given in a dose of 0.5 c.c. (8 m.) twenty-four hours before a mortal dose of the virus, conferred immunity on a guinea-pig and saved guinea-pigs already ill, even when inoculated forty-eight hours after in a dose of 2 c.c. (32 m.)

Therefore, to obtain a good vaccination against yellow fever, these results show it to be more difficult and to require longer time than in the case of other kinds of virus.

This serum, so far used only in animals, the professor thinks will be found to give immunity to human beings, possible to demonstrate only when a more powerful serum is obtained.

Prof. Sanarelli gives yellow-fever mortality at from 13 to 90 per cent. H.

Idiopathic Salivation

Cases of true idiopathic salivation are of such rarity that the two cases reported by Dr. Jordan (*Birmingham Med. Review*, Vol. XLII, No. 229, p. 173) are of interest.

The first case was that of a boy of 4, who so constantly dribbled that his clothes for some distance below his neck were thoroughly soaked; the salivation never ceased, not even at night, so that his pillow was also soaked. The child had "always" dribbled, and except for this affection, he was perfectly healthy. The second case was that of a boy 2½ years old. He began to dribble when he was 4 months old, and never ceased since. His clothes were saturated. The teeth and oral mucous membrane were normal in both cases. Treatment with large doses of belladonna (in the case of the boy 4 years old, 20 minims t. i. d.) and with iron had no effect whatsoever.

The cases reported by Bohn, in Gerhardt's *Handbuch der Kinderkrankheiten* (Vol. IV, Division 2), are somewhat different, as they had a neurotic element in them and were amenable to treatment. M.

The Non-surgical Treatment of Pyelitis

Dr. Robin writes that though pyelitis is usually and rightly considered a surgical affection, there are nevertheless many cases where medicinal measures may be employed with great benefit (*Bull. gén. de Thérap.*, April 30, 1897). The treatment may be divided into hygienic and medicinal. The hygienic treatment consists of an absolute milk diet, of light broths, of mild alkaline waters, and of stimulating the functions of the skin. For this purpose the author recommends vigorous rubbing of the skin with the following liniment:

Tr. of Cinchona Spirit of Camphor	āā 100 dr.
Tincture of Nux Vomica	25 dr.
Menthol	1 dr.

As a direct counter-irritant over the region of the kidney hot irons are recommended, but cantharidal plaster is proscribed, as the possible absorption of the cantharidin may cause or aggravate any existing kidney-trouble. Internally benzoic acid or sodium benzoate is adminstered in small doses (15 to 20 grn. in twenty-four hours), or balsam of tolu, copaiba or eucalyptol. As astringents are administered krameria, tannic or gallic acid, and opium. An an internal renal antiseptic salol is recommended.

For hematuria the following combination is recommended:

Ergotin	4 dr.
Oil of Turpentine	4 dr.
Gallic Acid	2 dr.
Simple Elixir	100 dr.

Dose: One or two teaspoonfuls every 3 hours.

If the urine contains too much pus, large doses of quinine are to be taken. If the pain is too severe an opium suppository is to be used per rectum, and a liniment consisting of camphorated oil, chloroform, opium, hyoscyamus and belladonna is to be rubbed over the region of the kidney. M.

PEDIATRICS

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.
H. P. DE FOREST, M.D., H. T. HOTCHKISS, M.D.

Pyelonephritis in Children

Prof. Baginsky has observed a series of cases of this disease in children (*Münch. med. Woch.*, No. 27). The symptoms, besides those referring to the alimentary canal, such as constipation, diarrhea, membranous colitis, consisted of an intermittent fever, fluctuating between 97° F. and 104° F., and of intermittent pains in the region of the kidneys. The urine contained a moderate amount of albumin, opaque cylinders, peculiarly darkened epithelial cells and numerous pus-cells. Some cases recovered, others, after frequently repeated attacks, and after exceedingly violent diarrheas, with discharge of blood and pus, terminated fatally, and at the autopsy the kidneys showed numerous foci of pus, small and large. From the aseptically removed urine, pure cultures of the Bacterium coli commune could always be obtained, and from the kidneys there were obtained cultures of the Bacterium coli commune, Bacterium lactis, proteus, and Bacillus pyocyaneus. Dr. Baginsky is of the opinion that the starting-point of those purulent inflammations of the kidneys is in the intestinal coli. M.

Congenital Malformation of the Rectum

Dr. E. R. Kirby (*Archives of Pediatrics*, August, 1897) arranges all deformities about the rectum under the following headings:

1. Congenital narrowing of the anus or rectum, without complete occlusion. The anal aperture is at times preternaturally small, either in consequence of a contraction of the lower end of the rectum, or from the fact that the skin may extend occasionally over the border of the anal margin. The diagnosis is usually easy, for the contraction is near the anus and can be readily detected by the finger, or seen when due to a fold of skin extending across the anus. The treatment consists in dividing the ring or skin on the dorsum, and daily dilatation, either with the finger or soft rubber bougie.

2. Closure of the anus by a membranous diaphragm (atresia of the anus) is the simplest of all forms of congenital malformations, and is treated by a crucial incision through the membrane.

3. In imperforate rectum one may expect to find some of the most difficult cases of malformation, although some are comparatively simple. Instead of a normal anus the skin of the perineum extends across the anal region from side to side, and the rectum may terminate quite a distance from the normal site of the anus. The intervening space may be made up of connective tissue, while a circular elevation or depression marks the normal site of the anus. Occasionally a distinct fibrous cord may be traced from the rectal pouch to the skin. If the rectal pouch be not at too great a distance from the skin, a sense of fluctuation may be felt by firm pressure of one finger over the anus and the hand over the abdomen.

4. The system which separates the anal and rectal pouches in cases of imperforate rectum with a normal anus is generally within easy reach of the anus. It may be perforated and allow the slow dribbling of meconium. There may also be more than one septum.

5. The anus may be absent and the rectum open at any point in the perineum or sacral region. The lower portion of the rectum in these cases is usually of a fistulous character, lined by true mucous membrane, and the abnormal anus is always narrow and insufficient for its purpose. Occasionally the rectum terminates in two distinct openings, at a greater or less distance from each other.

6. The anus may be absent and the rectum terminate in the bladder, urethra, or vagina. In females the vaginal opening is the most common; in males the vesical. This condition is usually rapidly fatal unless relieved by prompt surgical interference.

7. The rectum or the large intestine may be entirely absent.

As to the general treatment, the author lays down the following rules:

1. An operation should always be performed, and performed without delay.

2. If there be any chance of establishing an opening at the normal site of the anus, the surgeon should at first direct his attention to this procedure.

3. The use of a trocar as an aid in finding the rectal pouch before or after incision through the perineum, is not sanctioned by modern surgical authority.

4. The results of attempts to establish an outlet for an imperforate rectum through the perineum, are not favorable as regards the production of a useful anus.

5. In case of failure to establish a new anus in the anal region, colotomy should at once be performed.

6. In the formation of an artificial anus the left groin is the best site for the operation.

7. Attempts at establishing an anus in the anal region after a colotomy are attended with great danger, and are generally unsuccessful. O.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Facial Hemiatrophy

Eugene S. Young (*Brit. Med. Jour.*, March 6, 1897) reports the following:

The patient, a woman aged 41, first noticed something wrong with her face twenty-one years ago, when she had an attack of intense facial neuralgia in both sides, lasting, with short intermissions, about six months. Her friends remarked at this period that the right half of her face had become slightly different from the left, and the asymmetry steadily grew more noticeable until nine or ten years ago, since which time little or no change has been apparent. At the present time the atrophy was found to involve the right malar bone to the greatest extent, the corresponding frontal coming next in order. The skin on the affected side was furrowed, wrinkled, and thinned, and the superficial veins stood out in bold relief. A well-marked vertical furrow on the forehead separated the healthy from the diseased portion. The jaw, which was somewhat atrophied, was shorter and shallower on the right side, and that half of the face, in consequence, did not appear as long as the opposite half. The cartilage of the nose was wasted unilaterally. The muscles showed no change in size, voluntary power, or electrical excitability. The corresponding half of the tongue was slightly atrophied; sensation in the cutaneous area on the right half of the face was unchanged, and neither the temperature nor the secretion of saliva or tears was deranged. B.

Aphasia and Will-making

A note in the *Jour. of Mental Sci.* sets forth the suggestive manner in which Dr. Byrom Bramwell has dealt with the question. The legal attitude in reference to wills made by the insane, is generally in accordance with justice, for judgment may be said to be ruled by the case of Banks v. Goodfellow, when Lord Chief-Justice Cockburn adopted the earlier test, "Was the capacity in this particular case adequate to the act?" Wood Renton states that "testamentary capacity consists in the possession by the testator of a memory sufficiently active to recall (*a*) the nature and extent of his property, and (*b*) the persons who have claims upon his bounty, and a judgment and will sufficiently free from the influence of morbid ideas or external control to determine the relative strength of these claims." And further, "the testamentary capacity of aphasics depends upon the same considerations." It is plain that each case must be determined on its own merits, whether the person be sane or aphasic. The means of communication are limited, but the associated mental defects constitute the real difficulty in determining the validity of such a will. Dr. Bramwell points out that mental defect is more probable in total aphasics. He enters at length into the methods of examination, and claims that such cases should be investigated by competent physicians. Professor Gairdner has contributed a letter to the *Brit. Med. Jour.*, in which he concludes that: "It is almost impossible to lay down categorically or dogmatically the conditions under which a particular aphasic can, or cannot, make a bequest." "We recall Dr. Savage's memorable words: 'No two houses fall into ruins in exactly the same manner,' and accept Dr. Gairdner's conclusion as a summary of our present knowledge." U.

Prairie-rattlesnakes: Their Poison and Its Treatment

In the *Kansas Med. Jour.* (Vol. IX, No. 5, p. 57-60) Dr. J. F. Brewer says, in regard to rattlesnakes: Their period of greatest activity is in the spring, before breaking their winter's fast, while their period of dormancy coincides with the sloughing of the skin and occurs in July or August. The number of rattles cannot be taken as an accurate guide to the age of the snake.

The virulence of the poison is greater in the early spring than later in the season. Dogs or people bitten in April almost invariably die, while those bitten late in the summer almost invariably recover.

The physiological effects of rattlesnake-poison are local as well as constitutional. The local effect is confined chiefly to the blood-vessels in the part, causing complete stasis in the arterioles and capillaries. The local swelling and heat are intense and are in proportion to the virulence of the poison. Large blebs form and tend to spread. Often erysipelatous inflammation intervenes, and if the sufferer recovers from the systemic effects of the poison, he falls a victim to the local. The wound usually heals by a process of sloughing.

The systemic effects are pronounced. The poison is a powerful depressant to the heart and circulation. There is marked stimulation of the vasodilator apparatus. When stasis occurs the heart flags, flutters, and stops in open diastole.

If the patient recovers from the systemic effect in twenty-four hours the arteries regain their lost tone and peripheral resistance is increased. The secretions are nearly all lessened, the tongue dry, bowels constipated, skin flushed and dry. The venom acts as an excitant to the nervous system. The motor areas are stimulated, jerking of the head and other spasmodic movements are produced, though the author never saw convulsions produced by the snake-bite. The sensory tract is also stimulated. Sharp, shooting pains occur in the limbs and head. Finally delirium comes on, the eye is bright and dry and the patient imagines himself surrounded by thousands of serpents and begs to be released. He complains of intense thirst, but if water be given him he dashes it from his lips. Often there are severe hemorrhages from the nose.

As to treatment, the author concludes:

1. That treatment founded on popular superstition, *e. g.*, alcohol as it is generally administered, often does more harm than good.
2. That rattlesnake-bite should be treated on physiological principles, and the local sore on surgical principles.
3. Nitrate of strychnine is the most complete physiological antidote to rattlesnake-poison, with nourishment to maintain the strength of the patient.
4. There is no antidote.
5. From the nature of the poison a surgeon is not excusable, if called in time, for not excising freely the wounded parts.

T.

The Rôle of the Clitoris in the Production of Neuroses

Grandin (*Pediatrics*, Feb. 15, 1897) has been forcibly impressed for years by the number of obscure neuroses in woman, the etiological factor of which was anomaly of clitoris. He questions if the general practitioner, and pediatrists in particular, pay sufficient attention to this small and yet most sensitive organ. He has determined the causal relation of masturbation, enuresis and chorea minor, dependent on clitoridal adhesions in the female, as on preputial adhesions in the male. It has become the habit of the author to examine the children he brings into the world, for preputial or clitoridal adhesions, and he has over and over again relieved impracticable neurosis by the simple stripping of the prepuce from the clitoris. The prime importance of washing the genital organs thoroughly and of not overlooking the smegma which otherwise will form around the prepuce of both penis and clitoris, is also distinctly impressed on the mothers and the nurses. Two illustrations, in close connection with the text, show, each, a hypertrophied clitoris, distinctively resembling a penis. The case is a girl of twelve months with otherwise normally developed sexual organs. The query suggests itself if, in this instance, the hypertrophy of the clitoris is not the sequel of masturbation, itself the outcome of instability from preputial adhesions. L.

Effect of Tea Cigarettes

The *Quarterly Jour. of Inebriety* (Vol. XIX, No. 1) calls attention to the tea cigarettes as one of the most injurious and dangerous of the new fashions.

Tea cigarettes are made of a grade of green tea which has but little dust, and is composed of unbroken leaf. This is dampened to make the leaves pliable and capable of being stuffed in the paper cylinder, while the dampness is not sufficient to stain the paper. The cigarettes are laid aside for a few days and are then ready to be smoked.

The feeling of a tea cigarette in the mouth is peculiar. The taste is not so disagreeable as might be supposed, but the effect on the tyro is a sense of thickening of the head and a disposition to take hold of something or sit down. If the beginner stops then, he will not try tea cigarettes again. If, however, the smoker sits down and tries a second cigarette, inhaling it deeply, then the thickening feeling passes and is succeeded by one of intense exhilaration. This stage lasts as long as the smoke continues.

The agony of the opium fiend is a shadow to that of the nauseated victim of the tea cigarette. Food cannot be looked at for hours, yet the first step towards a cure is a cup of tea. An hour afterward comes the craving for a cigarette. U.

Cerebral Polyneuritis Due to Lead-Poisoning

Paralysis of the cerebral nerves from lead-intoxication is rare. Dr. Mannaberry presented an interesting case at the Society of Physicians of Vienna (*Wiener klin. Rundschau*). The symptoms pointed strongly to a tumor at the base of the brain. The woman had violent headaches, vomiting, vertigo, constipation; there were rigidity of the neck, complete paralysis of the right side of the face, oculo-motor paralysis on the right side, bilateral optic neuritis, intense swelling of both papillæ, and sensitiveness on pressure at the points of exit of the trigeminus. A few days after admission to the hospital a gray line (of lead sulphide) was discovered on the upper and lower gums, and other factors pointed to saturnine intoxication as the cause. Large doses of sodium iodide were given the patient, and hot salt baths daily; the amelioration was rapid. M.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D., DAVID M. STABLER, M.D.

Marmorek's Antistreptococcic Serum

Dr. Robert F. Weir (*N. Y. Med. Jour.*, Vol. LXV, 24) reaches the following conclusions: 1. The antistreptococcic serum has some good effect in erysipelas, and probably in scarlatina. 2. Its value in puerperal septicemia is yet to be proved, the present testimony being against it. 3. It is worthy of a further trial in cellulitis, osteomyelitis and surgical peritonitis (i. e. now uterine). 4. The dose is to be increased considerably from 60 to 150 c.c. per diem, in which doses it may be considered as a fairly safe remedy.

M.

A Maneuver in Abdominal Surgery

By most surgeons it (*The Hospital*, Vol. XXII, No. 559) has not been considered safe to suture the gall-bladder and close the abdomen, although this course has been adopted in a fair number of instances. When, then, the incision in the gall-bladder cannot be fixed to the abdominal opening the operator may either pack and drain or contrive a passage out of the omentum, as described by Mayo Robson, or use the tube invented by Murphy for the purpose, or, as has been advised by Mayo Robson, he may tuck in the parietal peritoneum and suture it to the margins of the incision in the gall-bladder.

Mr. Morton, of Bristol, has gone further in this direction. He has peeled off the peritoneum from the abdominal wall, so as to obtain sufficient to tuck it down and unite it to the edges of the incision in the gall-bladder, even when deeply placed. By this maneuver the peritoneal cavity is shut off and a sort of open tube is constructed, leading from the gall-bladder to the surface.

V.

Excision of the Coccyx for Fracture and Necrosis, with a Report of Four Cases

E. N. Liell (*Med. News*, March 13, 1897) considers this subject. Referring to the etiological factors, usually a blow or a fall, at times parturition, more particularly when attended by a narrowed pelvic outlet, the tip of the bone generally receiving the impress direct, the author refers to the character of the pain, which, acute at the time, frequently diminishes to such an extent that the patient often gives but little heed to the injury; months, or perhaps years later, however, she consults a specialist, and it is found that often there is necrosis of the bone, with accompanying suppuration, the fistulous opening being usually over the sacrum, rarely into the rectum. The pain, acute or aching, is decidedly increased when assuming a sitting position, or, when sudden pressure is made upon the coccyx from any direction. It is further suggested that the coccyx can readily be palpated, and a diagnosis of fracture or of abnormal sensitiveness be made by means of the index finger in the rectum and the thumb over the region of the coccyx externally. The author declares that measures for the relief of this condition should be of a radical character, temporizing being of no avail. Excision of the fractured or necrosed portion of the bone is unquestionably the only measure to adopt, as by this means only an excellent result and permanent cure are obtained. The following method of procedure is advised: An incision, one and one-half or two inches in length, is made along the line of the coccyx, and, if need be, extended over the lower portion of the sacrum. In severing the muscular attachments and dissecting out the portion of bone to be removed, a blunt-pointed scissors and the handle of a scalpel are preferred. Care must be taken not to injure the rectum, the septum being often thin and delicate. The fractured portion of bone can be then readily dislocated, either by the scissors or a small rongeur forceps. The stump of bone should then be rendered smooth and free from spiculæ; if necrosis be present, the bone should be thoroughly scraped. If the fracture is an uncomplicated one, and the operation thoroughly aseptic, the incision may be closed by suture; in the case of necrosis, however, suppuration being present, only the upper portion of the wound should be closed, the remainder being packed with iodoform gauze, the dressing being renewed until the wound has entirely healed. Four interesting cases operated upon by the author are cited, the etiological factor being different in each instance. One had the lower portion of her spine come in violent contact with a window-sill about one and one-half years previous to operation, followed by abscess and necrosis. A second had, twelve years previously, received a kick in the lower portion of the spine, not followed by necrosis, operation being for excruciating pain, increased upon going upstairs, bending over, or upon defecating. A third had met with an injury some time before, a closing door striking her, as she was bending forward, in the vicinity of the sacrococcygeal articulation, this case disclosing, upon operation, a rare condition of affairs—there being a doub fracture, one at the junction of the two bones, and the other near the tip. A fourth sustained a fall on the end of the spine about six years previously, a chair having been pulled away as she was about to seat herself in it; four and one-half years afterward an abscess developed at the seat of injury, a suppurating sinus thereafter persisting; operation in this instance disclosed not only a fractured coccyx with considerable necrosis, but also a broad sinus with four ramifications, two of which led into the deeper tissues; a mass of indurated tissue the size of one's fist was excised, along with the fractured and necrosed portion of bone. In all four cases excellent results were obtained, in the last case two months elapsing before the wound had entirely closed. L.

Grave Psychic and Motor Phenomena Due to the Compression of the Longitudinal Sinus

Clementi reported to the Italian Surgical Congress (*Railway Surgeon*, Vol. IV, No. 2) the case of a man, aged 30, who sustained a fracture of the vertex of the skull, in the median line, followed, after three months, by paralysis of the legs and aphasia. Feebleness of the legs and embarrassment of his speech, with occasional giddiness and delirium, first began to assert itself. Clementi thought the sinus was compressed and performed craniotomy exactly nine months after the accident. In trying to loosen the sinus it was wounded, causing profuse hemorrhage. About the twentieth day the intellectual and motor symptoms commenced to abate. Since then the cure has been complete and patient is able to work.

Ganjitano thought the symptoms pointed more to cerebral irritation. Bonomo stated that he had had a similar case, in which death resulted. He tried tying the sinus in the cadaver, and found it could be easily accomplished if the falx cerebri was first divided. V.

The Comparative Merits of the Different Operations for Stone in the Bladder

Dr. Deaver (*Virg. Med. Semi-Monthly*, June 25) is rather inclined to believe that suprapubic lithotomy is done oftener by the young and the occasional operator than is litholapaxy. The majority of experienced operators are in accord that litholapaxy is applicable in almost all cases of stone. The first and most important, because the most frequent, condition which may interfere with litholapaxy is a stricture of small calibre, either in the anterior or the deep urethra. With but few exceptions, stricture of small calibre in the deep urethra can be divulsed to a size which will admit of the introduction of the lithotrite and the evacuating-tube. If the urethral calibre cannot be restored, litholapaxy is out of the question. Under the latter condition, perineal lithotomy is the choice of operation. Should the stone be large, perineal litholapaxy with a Harrison perineal crusher will fulfill the indication. In cases where a false passage or passages caused by previous urethral instrumentation render litholapaxy impracticable, and it is possible to introduce a staff into the bladder, no matter how small, it is advisable to do a perineal lithotomy. In cases of enlargement of the prostate gland when the introduction of the instruments necessary to perform litholapaxy is impossible, in stones complicated by a growth or tumor of the bladder, in cases of contracted or sacculated bladder, or hypertrophied, and large and hard stone, suprapubic lithotomy had better be substituted. Experience will often decide the operator as to the safety and possibility of litholapaxy under such conditions. It is essential to success that the operation be completed at one sitting, otherwise it should not be undertaken. The condition of the kidneys must be seriously considered when deciding upon any operation for stone. Patients with chronic interstitial nephritis, excreting large quantities of urine of low specific gravity, bear crushing operation well, while under the cutting operations they not infrequently die. If, in addition to the interstitial nephritis, the pelvis of the kidney is the seat of chronic inflammation, the gravity of the lesion is increased. Even when extensive disease of the kidneys exists, litholapaxy offers a safer and more favorable outlook for a successful termination, the amount of anesthetic consumed to the contrary. In children under fourteen years of age, the mortality is about the same for both litholapaxy and perineal lithotomy, the former, however, having the greater advantage of rapid recovery and the absence of the cutting operation, more especially that of supra-pubic lithotomy. Multiple stones, if their number be not excessive, can be disposed of as readily by the crushing operation. In pelvic deformities, and in cases of ankylosis of the hip, it may not be possible to perform litholapaxy, the urethra being frequently so deviated from its normal course that the introduction of a staff is impossible in the former condition, while in the latter it is impossible to place the patient in the lithotomy position, suprapubic lithotomy becoming, therefore, the operation of choice by necessity. In old people, the enforced quiet or retention in one position, e. g., on the back, is in itself an objection, as such restraint is not well borne, and not infrequently it is the beginning of a fatal termination. The most important objection to suprapubic lithotomy, and the same is true of the perineal operation, is the mortality, which is very much greater than in litholapaxy. The sequelæ of lithotomy are not dangerous, but different, and at times almost impossible to correct. They are fistula, incontinence of urine, and sterility. In the female, the advantages which litholapaxy offers over the other operative procedures are readily recognized. L.

Report of a Case of X-ray Burn

Dr. George R. Green, in the *Fort Wayne Med. Jour.*, Vol. XVII, No. 6, reports a case of a patient upon whom the X-ray was used, for the purpose of obtaining a skiagraph of the knee-joint. After two X-ray examinations there appeared a vesicular erythema at the site of the X-ray application, covering the entire knee-joint and limiting itself to the locality subjected to the influence of the rays.

After persistent treatment the eruption healed with the exception of one point, about one and one-half inches long, one inch wide, where sloughing occurred. The ulcerating surface became exceeding irritable and sensitive and covered with a dirty-gray pseudomembrane which up to the present time has resisted all efforts to effect granulation and healing. V.

Operative Surgery in Low and High Altitudes

Dr. Charles A. Powers, of Denver (*Annals of Surg.*, Vol. XXVI, No. 3, p. 297, Sept., 1897), gives a comparison of results of operations performed at New York and in Denver, Col., which is one mile above the sea-level.

Of 248 operations performed at Denver, ether was employed in 159, and chloroform in eighty-nine.

Fifty-four were upon the head and neck.

Thirty-three were upon the chest and trunk.

Thirty-six were upon the abdomen.

Thirty-four were upon the genito-urinary organs.

Nineteen were upon the rectum and anus.

Seventy-two were upon the extremities.

Eleven deaths occurred in the entire series.

Dr. Powers' conclusions were as follows:

1. Operative surgery in dry climates having an altitude of one mile or thereabouts, is to be pursued on the same general lines which govern it at the sea-level.
2. Care must be exercised in subjecting those recently from a lower altitude to severe or prolonged surgical procedure, especially if the patient be a pulmonary invalid, or if he exhibit cardiac weakness.
3. Those who are thoroughly acclimated bear operation rather better when at home than when they go to tide-water.
4. Ether must be employed with greater caution, and is more of an irritant to the respiratory mucous membranes.
5. The loss of blood seems rather less in the high, dry climate.
6. Shock also seems less pronounced; patients rally more quickly after operation.
7. Infection, when it occurs, doubtless makes less progress in a dry atmosphere.
8. It is believed that accumulated statistics will show that operations for surgical tuberculosis are attended by a greater permanency of healing in the high altitudes.

D.

Experimental Surgery of the Ureters

Dr. J. Wesley Bovée, of Washington (*Annals of Surg.*, Vol. XXVI, No. 3, p. 314), gives the results of four experiments in suturing the ureters in dogs. He refers to a case, in which a year before he had wounded the ureter, but saved the life of the patient by obliquely splicing the severed ends.

Suturing the ureters in dogs is much more difficult than in the adult human being, on account of the small calibre of the ureter in dogs.

The first case died on the fifth day of shock. The wound in the ureter had healed; was pervious and no leakage occurred.

The second case died on the third day of shock; wound of ureter healed, but looked a little under pressure.

The third dog was operated upon on February 23, 1897. The kidney was transplanted downward to the iliac crest. The dog recovered, and was killed March 13; autopsy showed the ureter thoroughly united, pervious, and of good calibre.

The fourth dog recovered, but escaped on the thirteenth day. D.

Hip-disease

Dr. Young, in *The Philadelphia Polyclinic*, Vol. VI, p. 351, is quoted as proposing a new procedure for diagnosis: Puncture of the hip-joint, with an aseptic syringe, and a microscopic examination of the fluid evacuated. A two-part glass syringe, with a sterilized needle will be the best instrument for this purpose, and a puncture can be made in the line of Barker's incision, over the anterior part of the joint below, and in a line with the anterior superior spinous process of the ilium. C.

EYE, EAR, NOSE, AND THROAT

JOHN C. LESTER, M.D., HEBER N HOOPLE, M.D.,
VINCENT GOMEZ, M.D., WM. C. BRAISLIN, M.D.

Hypertrophic Rhinitis

Dr. N. T. Grove (*Laryngoscope*, Sept., 1897, p. 159) mentions under pathology marked vasomotor disturbance, defective nerve-nutrition, stating that the greater number of cases are dependent upon central causes. Such patients are neurotic and have attacks of tachycardia, also cold extremities.

Under the head of symptoms are mentioned nasal obstructions, respiration through either nostril being seldom free. There is a nasal voice, and under such conditions more or less mouth-breathing, followed by dry fauces. In this condition the discharge is first watery and diffuse, becoming tough and tenacious, even scabby at times. Sense of smell is often blunted and taste impaired. Eustachian and middle-ear complications are often met. Sometimes the glossal glands are involved.

As to treatment, the author believes in removing the cause as far as possible. Hypertrophied turbinates should be reduced in size, exostoses removed, as well as polypi. In young children post-nasal lymphoid hypertrophies should be looked for and removed. The author advises the removal of spurs, exostoses, and malformations by the use of the knife and saw, and condemns in a measure the promiscuous cauterization of the turbinates. First, because the physiological function will be interfered with; second, too deep cauterization induces atrophic conditions, which are worse than the original condition. The writer prefers the galvano-cautery to any of the caustic acids, because the amount of cauterization can be limited. it is clean, aseptic, and scientific. He especially prefers the galvano-cautery for the removal of lingual tonsils, and posterior pharyngo-nasal cauterization.

Frequency of cauterization depends upon the degree of hypertrophy. The amount done at one sitting, and how well the case stands the cauterization-spraying, is of paramount importance. Dobell's solution is preferred as a general spray. Solutions of antipyrin, varying in strength from 10 to 30 grn. to ounce, are used where a shrinking effect is desired. Alkaline solutions are preferred after cauterization. Menthol, gum camphor, combined with the various oils as eucalyptus and gaultheria in liquid albolene are recommended after the acute inflammation has subsided. As an antiseptic after operation anatol salve 10 to 20 grn. to vaselin 1 ounce, is advised. Protonuclein powder used immediately after operation arrests the inflammatory process. As alterative remedies altered in strength to suit the individual case, iodine, tannin, potassium iodide, glycerin, creosote, and tincture of iron chloride are mentioned. Where a stimulating effect is desired, zinc chloride and silver nitrate are recommended. As a local anesthetic cocain hydrochlorate is always used.

Constitutional treatment is of paramount importance in all cases.

[We regret under the treatment of the naso-pharynx that the author failed to call attention to the value of the instrument devised by Dr. Emil Mayer, of New York. In many cases the simple curetting of the pharynx obviates entirely the necessity of further treatment, and is certainly to be preferred to cauterization in this condition.]

K.

Recovery from Retinitis Albuminurica

The following case is reported by Dr. James Hinshelwood (*Brit. Med. Jour.*, May 8, 1897). Mrs. S., aged 65 years, about the beginning of October, 1893, began to suffer from swelling of the feet and hands. At the beginning of November she consulted her family physician, who noticed puffiness of the face, and on examining her urine, diagnosticated Bright's disease. Next day there was general edema all over the body, with severe headache and vomiting. A few days thereafter she had a severe convulsive seizure, and was comatose for several days. After that she gradually recovered. Within two months the edema had completely disappeared, and she was able to go about. Near the second week of January, 1895, she first observed gradually increasing failure of vision, and came under the author's notice on February 5, 1894. She was only able to distinguish large objects, such as the hands. On ophthalmoscopic examination both eyes were found to present the appearances of typical albuminuric neuro-retinitis. The discs were slightly swollen, greyish-red, and the edges were completely obscured. A group of brilliant white spots, arranged in radiate fashion, surrounded the macular region in each eye, being most abundant in the right. There were diffuse opacity of the retina and a few hemorrhages scattered over the fundus, but most abundant at the periphery. The urine was pale in color, specific gravity 1008, and contained considerable albumin. There was no cardiac hypertrophy or notable elevation of arterial tension.

The patient was shown at a meeting of

the Glasgow Medico-Chirurgical Society on February 8, 1897. She was in excellent health, completely free from albuminuria during the last two years, and with normal visual acuity. The only traces of the past condition observable in the fundus were slight perimacular mottling and a few pigmented spots.

Great attraction has of late years been drawn to the very unfavorable prognosis in cases of albuminuric retinitis.

In 1888, at the Ophthalmological Society, in London, a discussion took place on this subject. Dr. Miles Miley, who introduced the discussion, said that out of forty-five cases of albuminuric retinitis which he had been able to trace, the majority were dead within a year, and only one lived beyond eighteen months. Dr. E. O. Belt, of Washington, at a meeting of the American Medical Society, Ophthalmological Section, in 1895, basing his remarks on an analysis of 419 cases, found that in hospital practice 85 per cent. died in the first year, and only 6 per cent. lived more than two years. B.

Adenoid Vegetations in Deaf-mutes

Jaukelevitch in *Rev. Hebd. de Laryng., d'Otol. et de Rhin.* (No. 5, pp. 156-159, 1897) reviews Frankenberger's work on the above subject, in which he also treats on the etiology of deaf-mutism.

The author examined 158 inmates in the deaf-mute institution of Prague. Counting only adenoids large enough to fill the naso-pharyngeal space, he found 54½ per cent. thus affected, of whom 56 were boys, 38 girls—94 persons out of the 158. Anomalies of the ear were found in 58 cases, as follows:

Plugs of wax	24
Chronic otorrhea with granulations	14
Depression of the tympanum	12
Stenosis of the auditory canal	1
Atresia of the canal	1
Foreign body in the canal	1
Synechia between the drum and the internal wall of the tympanic cavity	1
Hyperemia of the drum	4
Dry perforation of the drum	3
Complete absence of the drum following otorrhea	4
Polypi	3
Scar in the mastoid apophysis after peritonitis	1

Forty-two of these were pathological modifications more or less important, due chiefly to chronic suppuration and inflammations. Of these 42 cases, 37, i. e., 88 per cent., presented adenoid vegetation.

Whatever theory is adopted, the fact of the connection between adenoids and deaf-mutism is undeniable, and the physician's prophylactic course is clearly indicated. From birth to the seventh year children should have their naso-pharynx examined. It is hard to say if deaf-mutism, once established, can be cured by removal of the adenoids. Out of 426 cases of adenoids, Arslan found six deaf-mutes, on two of whom he operated, relieving one and curing the other, both as to hearing and as to speech.

The author believes the number of cases of acquired deaf-mutism should be greater than that of the congenital form, and recognizes a particular pathology for each.

Mygind performed 118 autopsies on deaf-mutes of both kinds, and found 79, i. e., two-thirds of these presented pathological modifications of the middle ear. In 19 only was the labyrinth, or central nervous system, intact.

The findings were as follows:

"In most of the cases the changes were due to severe and extensive inflammations, especially in acquired deaf-mutism. Other anomalies were almost identical in the two classes of cases, congenital and acquired. The opinion hitherto accepted that deaf-mutism results from congenital deafness, due to some anomaly of development of the organ of hearing, is invalidated by the fact that anomalies are a very great variety. Changes usually affect both ears, though unequally. The middle ear has been found most often affected. The internal ear was affected most in the semicircular canals, rarely in the vestibule; and in a great number of deaf-mutes these anomalies could be considered the chief cause of the deaf-mutism. In some cases the auditory nerve presented phenomena of atrophy and degeneration, but oftenest the nerve was intact. In some cases there were anomalies of the brain."

Since most of the changes were inflammatory they must, in congenital cases, have taken place in utero, causing deaf-mutism through the effect on the meninges. If intra-uterine infection is beyond question possible, we are not yet in a position to claim that the meninges may be modified in utero. That must be excluded as a cause of congenital deaf-mutism. Other infectious diseases too rarely cause permanent deaf-mutism to permit it being thought otherwise in the fetus.

Without denying the existence of congenital deaf-mutism, the author contends it is less than is claimed, and that most cases of it would better be regarded as acquired, making the number of that kind particularly large and demanding more consideration on the part of physicians. B.

DERMATOLOGY AND SYPHILOLOGY

JAMES M. WINFIELD, M.D., HOMER E. FRASER, M.D.

Eruptions After Mercurial Inunction

Dr. G. G. Stopford Taylor (in the *British Journal of Dermatology,* Sept., 1897) reports peculiar cases of cutaneous eruptions following inunctions of mercury.

The first was in a woman aged 60, who for some imagined disease rubbed in the skin half an ounce of blue ointment. An hour after she awakened "on fire," and forthwith rubbed in some more. After the second application she was unable to rest owing to the burning and itching. On admission to the hospital, it was found that the horny layer had been completely exfoliated, from the umbilicus to the knees. The process was preceded by a wrinkling without any inflammation.

The second case occurred in a young man after secondary symptoms of syphilis. The treatment had been inunctions with blue ointment. On observation by Dr. Hawkes, the patient was emaciated, the whole surface of the body was red, dry, and scaling. The axillæ and gluteal furrow were moist from perspiration. The general appearance of the skin was brownish and peeling in large flakes. Treatment consisted of doses of quinine and two tar-baths daily. After the bath the patient was smeared with vaselin, and powdered with zinc and talc.

The third case was also one of exfoliating dermatitis. The patient was a girl aged 21, who gave a history of hereditary syphilis. Various remedies were tried unsuccessfully and inunctions were begun. After using them for four days a red rash appeared on the forehead. This so greatly resembled a scarlatinal rash that the patient was isolated. Two days later scaling began and the symptoms were not improved. She gradually grew worse, and finally died in coma.

S.

Venereal Diseases Treated with Iodole

Dr. Majocchi (*Therap. Monatsh.*) states that he has carrried out a series of observations on the use of iodole in venereal diseases during four years, and gives the following results:

He found that pure iodole, or a mixture of equal parts of iodole and calomel, was best suited for the treatment of soft chancre, and that their use is indicated at any stage, from the beginning of the necrotic process to the completed cicatrization. The sores, without the use of any other remedy, cicatrized, according to their character, in from two to six weeks. All varieties of sores, of whatever dimensions or location, were thus treated, amongst them even some complicated with serpiginismus, diphtheria, and phagedenic-gangrenous processes. The cure was, however, in every case, decisive. Majocchi advises that iodole, after first disinfecting and thoroughly drying the sore, be dusted as much as possible on the wound-surface itself, and not on the organic fluids secreted, and advises also that they then be covered with antiseptic cotton, especially in treating the female sexual organs, until complete cicatrization.

In the same manner he treated hard chancre, and with the same success as well as various forms of chancre mixed with decided necrobiotic bias, and ulcerous syphilomas that, as a rule, in spite of all treatment showed a dirty, strongly secreting surface. The author also treated successfully chronic vulvo-vaginal sores with iodole alone, or mixed with calomel, aided by frequent cauterizations with lunar caustic.

Thirty-one cases of granular erosions of the neck of the uterus were also treated by the iodole and calomel mixture applied by means of tampons, after previous careful antiseptic washing, and were rapidly healed. He sums up the advantages that iodole possesses over iodoform:

1. It is odorless, and therefore particularly agreeable to patients who desire privacy in their treatment.
2. It is non-poisonous, even when kept on extended wound-surfaces for long periods, which cannot be said of other iodine preparations.
3. It exerts a powerfully modifying effect on the tissues infiltrated by the sore, and effects a rapid antisepsis besides hastening the cicatrization.

Besides these may also be mentioned stability to light, and great purity.

F.

The Etiology of Trichorrhexis Nodosa

Bhruns, in *Archiv. für Derm. und Syph.*, Band 38, Heft 1, concludes that trichorrhexis nodosa capillitii is frequently observed in women in Berne and vicinity. The bacterial investigations have not proven that the disease is produced by specific bacteria. The author failed to find any bacteria in six of his cases, and inoculation upon the hairs of other individuals was negative. There are many facts against; as, for instance, the occurrence of this disease accompanying attacks of epilepsy (Raüber). It is improbable that it appears only from mechanical causes; there must be some predisposition to the affection, possibly a disturbance of nutrition.

S.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

Curettage and Packing the Uterus

J. Duncan Emmett (*Am. Gyn. and Obstet. Jour.*, May) takes exception to the general teaching that endometritis is an important or even a common factor in inflammatory diseases of the pelvis. In the popular medical mind to-day the use of the curette implies a belief in the doctrine of endometritis as the *fons et origo*—the foundation-stone, in fact—of the diseases of women. This is neither just nor true, in the opinion of the author. In the understanding of Dr. Polk, to whom is given the chief credit for the revival of curettage and drainage, at least in the sense of popularizing it, and in that of the vast majority of its present supporters, the chief significance of this operation lies in the claim that it is curative of endometritis. This is defined as an inflammatory disease, *per se*, of the lining membrane of the uterine canal. Its origin is by extension through the vagina, extension through the tubes, or by the introduction of septic matter by means of the lymphatics. Its clinical symptoms are uterine "leucorrhea" and enlargement, with tenderness in and around the uterus. If endometritis in its acute form be considered as a primary and independent disease, as its advocates claim it to be, we should, in the estimation of the author, expect some evidences of distinct inflammation in the endometrium itself; yet we never find this, but the whole uterus as well as the peri-uterine tissues show equal evidences of inflammation. In acute endometritis, therefore, it is pure assumption to claim that the metritis and perimetritis are secondary diseases in regard to it. In chronic endometritis, as it is called, pathological conditions external to the canal are still more easily recognized and are invariably found, so the same argument holds good as in reference to the acute form. But although the author believes endometritis as a distinct disease, is rare, the endometrium has the power of very rapid and thorough absorption. Hence, it is through and by means of this membrane, undoubtedly, that septic material and irritating substances which reach the canal are frequently carried into the body of the uterus and to its annexa and ligaments, where they cause an inflammation of more or less extent and distinctive character. The endometrium, from its anatomical connection with the uterus, must likewise become involved, but this involvement is a secondary one always in importance. The author queries: What is more probable than that this organ should endeavor to rid itself, by means of its glands, of the stasis in its venous circulation? And this is his belief, in that he considers uterine "leucorrhea" to be nothing more, in the majority of cases, than a symptom of some form of inflammation external to the endometrium, and usually external to the uterus as well, and as significant alone of an effort on the part of nature to find relief from a blood-stasis. This view of the subject received clinical confirmation from the experience of most physicians who have constantly cured completely all the symptoms ascribed to this supposed disease by applications of astringent drugs to the vaginal vault alone, without ever suturing the uterine canal. The author puts forth this remarkable statement: "That, with large opportunities for observation both in my own practice and that of others, I have never seen a case cured by curettage, unless in those diseases already excepted in the beginning of this article, viz.: retained placenta or secundines, acute sepsis from operative interference and the like, or in acute gonorrheal infection. The symptoms have always steadily returned, after a greater or less interval, when local treatment has ceased with the curetting." Finally, to support his position, the author offers the dicta upon this subject of one of the world's greatest pathologists, appending also the notes of Prof. Welsh, of Johns Hopkins University, on endometritis. L.

Selection of Operation in Cases of Cancer of the Cervix Uteri and of the Uterus Also

J. E. Janvrin (*Am. Gyn. and Obstet. Jour.*, May, 1897) states that, with the general opinion of surgeons who see a good deal of this disease, he is inclined to think that the instances in which the disease begins in the cervix are those in which, as a rule, the least hope is to be expected, in the way of ultimate cure, particularly if the operation resorted to is simply vaginal hysterectomy; and furthermore, that the truthfulness of this statement can possibly be readily accounted for from the fact that up to the last two years (or about that date) many cases of cancer of the cervix were operated upon by this method, which should have been treated by the combined abdominal and vaginal extirpation, or better still, never have been subjected to any attempt at a radical operation. In selecting for vaginal hysterectomy a case of cancer of the cervix or one in which the disease may also have extended to the upper portions of the vagina, Janvrin believes the first points to investigate are these:

Is the disease confined to the cervix? Is it confined to the cervix, and, in addition, only to the mucous lining of the very upper part of the vagina? Is it confined to the cervix, the mucous membrane of a small portion of the vagina, and, additionally, to the endometrium? Does the examination convince the surgeon, as far as any examination prior to the operation can convince one, that the disease has not progressed beyond the three points mentioned? While it is not possible in every case to make out a perfectly clean map as to the extent of the disease, a thorough examination will generally show the uterus perfectly movable, no evidence of infiltration into the glandular or cellular tissue immediately surrounding the cervix toward the pelvic bones upon the sides, no infiltration under the mucous surface of the vagina, and probably no nodular enlargements in the uterine body. There will be no enlargement of the vaginal glands, and nothing in the general appearance of the patient indicating cachexia. Such cases are typical of carcinoma or epithelioma beginning in the cervix, and fortunately seen in their early stage, and such cases operated at once by vaginal hysterectomy will yield the most gratifying results.

Should it be apparent in examining a case of this class that the disease has progressed outward from the cervix, and that infiltration of the cellular or glandular structures in that direction already exists, the question comes up at once, What operation had best be done, if any operation is to be resorted to? According to the author, two methods are open: First, the combined abdominal and vaginal extirpation, for by this means we can see what we are doing, and can make the most radical section with less danger to the surrounding tissues (ureters, bladder, and rectum). Secondly, the operation so thoroughly done and so consistently urged by Dr. Byrne, viz., the thorough supra-vaginal amputation by the galvano-cautery. Out of seven cases operated upon by the latter method, in one there had been no recurrence after three years. But one case also can be reported as cured by the combined operation —that is, it has passed beyond the three years' limit. Strangely, too, but one case out of four operated upon, can be reported as cured by abdominal hysterectomy for carcinoma of the body of the uterus. During the past three years nearly all of the cases have been operated upon per vaginam, with the result that all the patients are living, and, so far as known, are, with one exception, free from recurrence. It might seem that this statement is something of an exaggeration, but if the matter be looked into a little more thoroughly, the reason for it will readily be seen. It consists in selecting for vaginal hysterectomy those cases in which the disease is a local affair, and therefore cases in which constitutional infection has not begun. Per contra, for all cases in which there is good reason to suppose that the infection has gone beyond these points, cases of extension into the cellular and glandular tissues around the sides of the cervix, cases of extension from the endometrium through the uterine body, as evidenced by enlargement of that organ by nodules, cases of uterine fixation with thickening around it in the broad ligaments, especially if with these conditions we find more or less constitutional symptoms, the operation which promises the best results is undoubtedly a combined abdominal and vaginal hysterectomy. The term "combined abdominal and vaginal" is used to express best a total ablation of uterus and adnexa, together with the greater part of the broad ligaments. There are many cases, however, of the class last described, in which the question will arise as to the latter operation being absolutely justifiable; in such, age and heredity especially should be carefully considered. Although predisposition to cancer does not fill as important a rôle as it was formerly believed, it forms one of the factors to be taken into consideration. As to age, the author is convinced that prior to the menopause the monthly congestion of the uterus has a decided tendency to promote the growth of the malignant disease, and for that reason the combined operation would seem more justifiable. L.

Catheterization of the Female

Dr. S. H. Britton, in *The Cincinnati Lancet-Clinic*, Vol. XXXIX, p. 205, offers the following method of catheterization of the female with a soft catheter: Catch the catheter near the point or end that is to be introduced. Keep this end pointed upward (the woman being in horizontal posture on her back), and move it backward from the posterior side of the clitoris in a line corresponding with the line of articulation of the pubic bones, all the while pressing the point (quite strongly if parts are not too tender) against the mucous membrane of the vagina. If the meatus is missed, repeat, varying somewhat until the point of the catheter slips into the meatus. Then hold it there, and by some assistance from the other hand a soft catheter can easily be introduced without exposure of the woman. C.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L SCHÖNEY, M.D.

Bacterium Coli Anindolicum and Bacterium Coli Anaerogenes

W. Lembke, in the *Archiv. f. Hygiene*, Vol. XXVII, p. 4, has described two bacteria that were isolated from the feces of a dog. These organisms were identical with Bacillus coli communis, save one gave no indol-reaction, and the other did not form gas. The differential diagnosis of these organisms from typhoid was undertaken with positive results. The characters of the organisms should be consulted in the original. J.

Study of the Spirilla of the Sea-water of Genoa

Massone, in the *Revista d' Igiene e Sanita publica*, 1897, 4 and 5, gives the results of a series of observations upon the vibrio species found in the water of the Bay of Genoa. Cholera-like forms had already been described by Russel (found in the Bay of Naples).

The author found five different species. All of them fluidify gelatin, two give the indol-reaction. In the dirty water of the harbor the vibrios were more abundant. By means of cholera serum there was no agglomeration found. On account of the close resemblance to the cholera spirillum the author holds it not improbable that some of the cholera organisms described by Nicati and Rietsch, from the Bay of Marseilles, were among his non-pathogenic forms. J.

Agglutinative Reaction on Dead Bacilli

The *Jour. de Cliniq. et de Thérap. inf.* (No. 6, p. 111, and No. 9, p. 167, 1897) gives the contribution of Widal and Sicard to the Society of Biology of Jan. 30 and Feb. 20, 1897. One of the most peculiar facts, theoretically, in the history of this reaction, is that dead bacilli can retain the property of being agglutinated by a specific serum. Bordet had already noticed that cholera vibrios killed by chloroform can still show this phenomenon. Typhoid bacilli killed by heat or antiseptics also retain the agglutinative property.

For months experiments to utilize this fact have been made in submitting typhoid bacilli to different physical and chemical reagents with the following results:

Exposure of cultures of typhoid bacilli in bouillon to 100° or 70° (C) for half an hour deprives them of their agglutinative property. But if a very powerful serum is used the reaction is obtained, only the groups require longer to form, and they are less bulky and more clustered than when living bacilli are used. Typhoid bacilli are destroyed by exposure for five minutes to 56° C. But if culture-tube is exposed for half an hour, or three-quarters of an hour, to a temperature of 57° to 60° C., they still retain their sensitiveness to the serum-reaction so that groups are formed like those with living bacilli.

Formol of commerce (one drop) added to 150 drops of a typhoid culture one or two days old composed uniformly of separate mobile elements with no preliminary groupings, kills the bacilli and fixes them in situ and at the same time preserves almost in toto their susceptibility to the agglutinative reaction. Preparations of this kind, sealed by rubber above the cotton in the tubes, have been treated with different typhoid serums after weeks and even months of keeping and found to be as responsive as living bacilli. Two of three specimens kept for five months responded thus; the third responded when the serum was added in the usual test proportion of 1 to 10. In the preserved cultures the bacilli settled to the bottom of the tubes; but the bouillon immediately became turbid on shaking. The advantage of such preparations lies in their proof against contamination when kept ready for use in serum diagnosis and in not requiring the preparation of fresh specimens for each new case.

Methodical measurement of the agglutinative power in twenty-one cases of typhoid repeated during sickness, relapse, or convalescence, furnished some interesting facts.

If, in light cases, there is often a weak agglutinative power, the gravity of a typhoid fever is not always proportionate to the intensity of this power.

The curve of agglutinative power for the whole period of sickness has a variable evolution from one case to another. Sometimes the power is slight at the outset of the disease and rises progressively with the disease; sometimes the power remains the same throughout the whole course of the disease; and sometimes it decreases with the decline or after the crisis. The rule is to see the agglutinative power lower more or less rapidly during convalescence. In some cases it decreases slowly, and once decreased, may still persist for months and even years; in others it runs itself out with surprising rapidity.

Without giving figures, the authors have proof that the agglutinative action diminishes almost always from the commencement of convalescence, and sometimes even in the period of decline of the disease. It is then pre-eminently a reaction of the infective period.

To reach this idea the authors first needed to remove the currently admitted idea that the agglutinative reaction was one of immunity. That idea prevented for a time perception of the significance and practical importance of the agglutinative phenomenon. So far as the authors know they were the first to establish this reaction by experiments and in the course of human disease. In 1889, Charrin and Roger first noticed agglutination with pure serum of animals vaccinated against pyocyanic infection. but not with the serum of animals in the course of acute infections. Addition of bacilli from blue pus to serum taken from a rabbit in the course of acute pyocyanic infection, showed Charrin and Roger slight development of the culture but no agglutination nor grouping. On the contrary a normal control-serum furnished flaky cultures, that is to say, the inverse of that which characterizes the agglutinative reaction. The notion that the agglutinative reaction is one of the infective period, whose application led to the serum diagnosis, is historically established to be peculiarly the authors'.

Charrin consented to the above, merely claiming that he and Roger were the first to notice the agglutinative reaction in serum of animals immunized against the pyocyanic infection. H.

Meningococcus Intracellularis in Epidemic Cerebro-spinal Meningitis

In the *Berl. klin. Woch.* (XXXIV, No. 16) Dr. W. Stoetzner reports a case of cerebro-spinal meningitis in a child 2½ years old, in which the Meningococcus intracellularis (Weichselbaum-Jaeger) was isolated from the spinal fluid obtained by lumbar puncture. The fluid evacuated by the puncture was turbid and contained many pus-corpuscles; of the four cover-glass preparations, two contained no meningococci, while the other two contained a moderate number. M.

A Clinical Study of the Pfeiffer-Widal Typhoid Reaction

Dr. Dysart (*Cleveland Med. Gaz.*, June, 1897) presents a number of observations made in the Cook County Hospital in 1896, offering them principally on account of their clinical and statistical significance. The opportunities for making this study were exceptionally good, typhoid fever being at the time endemic in Chicago. The majority of the tests were made by making an emulsion of typhoid bacilli in a drop of water upon a glass slide. Three or four drops of blood were then obtained upon another slide, and by touching the blood with a loop of platinum wire the serum collected on the outside of the drops was transferred to the emulsion of typhoid bacilli, with which it was thoroughly mixed. A cover-glass was then placed over the emulsion and the slide examined with an oil-immersion lens. Hanging drops were also made in like manner. Other tests were made according to the method of Pfeiffer, which consists in adding blood-serum to an emulsion of typhoid bacilli in a test-tube and noting the formation of clumps, as seen by the microscope, and the precipitation of the bacteria to the bottom of the test-tube, as shown by the clearing-up of the fluid and the appearance of flocculi in the bottom of the tube. In eighty-nine cases of typhoid where the clinical diagnosis seemed positive, and in some of which the post-mortem findings were those of typhoid, the bacilli rapidly gathered in clumps, some of which were large, others of medium size, and the bacilli rapidly lost their motility. The clumping in many of the cases was marked as soon as the specimen could be placed under the microscope, and in all it was evident at the end of from three to five minutes. The reaction was obtained in one case of acute articular rheumatism, one of chronic rheumatism, and one of malarial fever. The first had never had typhoid fever. The second had typhoid thirty years ago. The malarial-fever case was tertian in type, no history of typhoid being obtained. In each of these three cases the reaction in the hanging drop was rapid and pronounced. In two cases in which the diagnosis of typhoid seemed positive, the clumping did not occur in five minutes, but when the Pfeiffer method was used marked clumping occurred at the end of one hour, with considerable precipitate at the bottom of each tube. L.

The Influence of Cold upon the Secretion of Urine

The increase in the quantity of urine by the action of cold upon the skin has been carefully studied by M. Lambert (*Arch. d. Phys.*, 5, IX, 1897; ref. *Schmidt's Jahrb.*, Bd. 254, p. 230). It occurs immediately with the beginning of the irritation or just subsequently thereto. The immediate increase depends upon augmented blood-pressure acting upon a dilatable or but weakly contractile kidney; the subsequent increase depends upon the rapid dissipation of the tone of the renal vessels.

Possibly the secretory nerves of the kidney play some part.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D., DAVID M. STÄBLER, M.D.

Etiology and Therapy of Leukoplakia Oris

H. Niemeyer gives particulars (*Deutsche med. Z't'g*, XVIII, p. 908) of a case of leukoplakia of the upper lip and tongue, having its origin in a scald from hot coffee and subsequent irritation by immoderate smoking. The case, which was of long standing, was cured in a comparatively short time by suspending the smoking and applying the following papain-solution, recommended by Schwimmer:

Papain	1 gme.	(15 grn.)
Distilled Water	10 gme.	(150 grn.)
Glycerin	10 gme.	(150 grn.)

This solution was painted on the affected spots once daily, the use of spicy foods and spirituous liquids being also suspended.

Potassium Oxalate for Treating Phlegmons

Cavazzani, of Venice (*Wien. med. Presse*, XXXVIII, p. 1428), employs a 1-per-cent. potassium-oxalate solution for the treatment of phlegmons, by deeply injecting 2 or 3 c.c. of the solution into ten or twelve places in the neighborhood of the phlegmons. Its action is said to depend upon the property which potassium oxalate has of preventing coagulation, and hence preventing stasis and suppuration. The redness and swelling, as well as the pains, quickly yield after the injections, which may be repeated in a few days, are made.

Potassium Iodide as a Means of Revealing the Presence of Pulmonary Tuberculosis

Some years ago G. Sticker, of Giessen, discovered that potassium iodide in doses of from 0.5 to 1 gme. (8 to 16 grn.) daily provoked symptoms of catarrh at the affected spots, as well as a more or less abundant expectoration in which the tubercle bacilli could be detected. These results have been recently confirmed by Dr. H. Vetlesen, of Christiana (*La Sem. méd.*, XVII, p. 206), who has had occasion to employ the iodides for diagnostic purposes in twenty-seven cases. Potassium iodide was administered in 1.5-per-cent. solution, three tablespoonfuls being taken daily. At the end of two or three days, in eight cases the cough and expectoration were considerably augmented. In three cases, too, on auscultation, sonorous râles could be perceived at certain portions of the lung whose abnormal condition had till then not been indicated by any definite symptom. In only four of these cases could the presence of bacilli in the expectorations be confirmed, but in the other cases the diagnosis of phthisis was facilitated by various characteristic symptoms.

The iodide provoked no symptoms of the lung-affection. No bacilli could be found in any of the cases; nor did any of them develop tubercular symptoms, although several were under observation for two years. The author therefore believes himself justified in recommending potassium iodide in small doses, as a valuable means of recognizing the true nature of certain suspicious catarrhs of the apices.

Cinnamic Acid in Tuberculosis

Dr. T. Heusser, of Davos-Platz (*N. Y. Med. Jour.*, XLVI, p. 542) reports having treated twenty-two case of tuberculosis with cinnamic acid. In six of these (27.25 per cent.) the lesions healed completely; twelve (44.54 per cent.) were improved; one died; and in three the treatment was without result. The patients treated belonged to one of the two following classes: 1. Chronic tuberculosis with no cavities discernible, but numerous bacilli and moderate evening temperature; 2. Cases with cavities without critical increase of temperature. The cures were divided equally among the two classes. Of the twelve "improved" cases, three belonged to the first category, nine to the second. In seven of these the improvement has been permanent.

The writer prefers gluteal injections, the site selected being previously thoroughly disinfected with absolute alcohol, and has obtained as good results by this method as when intravenous injections were made, although the development of the cure is much slower. The dose at the beginning was usually 1½ minims of the 5-per-cent. emulsion, increased at every injection, which was made every second day unless the patient exhibits any peculiar sensitiveness. The maximum dose is 15 grn., which is continued for a month after the disappearance of all symptoms. If any of the symptoms recur the treatment must be continued for a time.

Immediate effects from the injection do not present themselves, but a burning sensation is felt at the puncture, lasting at most from morning till evening. The patients also generally feel depressed, complain of being tired, and become irritable and nervous. After from two to four weeks, an improvement of the general condition and feeling is accompanied by an increase of appetite and weight. The cough is soon ameliorated, and the temperature gradually reduced. After four or five months the râles have completely disappeared, as have elastic vessels and bacilli in the sputum.

No evil consequences were ever observed to follow the treatment, but some temporary drawbacks are liable to occur, especially when some of the emulsion is injected into the subdermal tissues, when a shooting pain is felt, sometimes extending down the whole leg, and resembling sciatica. This, however, soon disappears without treatment.

Treatment of Auto-intoxication of Epileptics

C. Agostini states (*La Sem. méd.*, XVII, p. 206) that auto-infection, which is known to augment the frequency and intensity of the attacks, has been treated by him with good results. To accomplish intestinal antisepsis he has had recourse, not only to the medicaments ordinarily employed, such as naphtol, betol, calomel, as well as a mixed alimentary régime in which milk plays a prominent part, but also to a regular lavage of the stomach with salt water, administration of saline purgatives, diaphoretics, and also diuretics, notably lactose. The employment of these means has enabled him to reduce considerably, with advantage to the patient, the dose of bromide necessary to suppress or mollify the convulsive attacks.

Xeroform and Its Use in Surgery

Dr. Josef Grünfeld writes in advocacy of this preparation in the *Wiener med. Blätter*, Jan. 7 and 14, 1897.

Xeroform not only possesses a powerful antibacterial action, but also renders the poisonous toxins and ptomains innocuous, on account of the ease with which bismuth is separated from it, and the manner in which it forms insoluble combinations with these noxious products. Secretion is reduced to a minimum, and the surfaces and edges of aseptic operative wounds adhere together with the greatest rapidity. In suppurating and infected wounds the production of pus is greatly diminished. The small amount of secretion that is effused from aseptic operation-wounds is entirely without smell. Even in infected and suppurating wounds and ulcerations the discharges have not the usual sickening and repulsive odor. This is especially noticeable in wounds that are connected with the gastro-intestinal and genito-urinary tracts, the secretion from which is notoriously foul-smelling.

Even in very extensive wounds, such as amputations of the breast with removal of the axillary glands, there is neither redness, swelling, nor edema of the margins of the wound after the dressing has been in place for several days.

Xeroform is absolutely non-poisonous. It has been administered internally in daily doses of even 5.0 to 7.0 gme. (75 to 105 grn.) by Hueppe without doing any harm. The drug has a hemostatic action, which is to be attributed, on the one hand, to the fact that it causes rapid coagulation of the blood, and on the other hand, to its desiccating properties, which speedily give the blood-clots the necessary firmness and adhesiveness.

Xeroform has been found to be extremely efficacious in the moist forms of eczema. The author employed xeroform externally in powder form, as a gauze (10, 20, 30 per cent.); as an ointment, in 10-per-cent. suspension, as a pencil, and in suppository.

Since the effect of xeroform is only developed when it comes in contact with the tissue-fluids, it is absolutely necessary to remove with the utmost care, all scabs, crusts, scales, fragments of necrotic tissue, clots, pus, and detritus from the wound and its vicinity before it is applied. B.

Arecoline Hydrobromate as a Myotic

Dr. J. Lavagna, of Monaco, states (*Therap. Woch.*, IV, p. 1075) that he has been using arecoline hydrobromate for two years in glaucoma, and in other cases where a prompt myotic effect, or diminution of pressure, was desired. In numerous cases of glaucomatous abscesses he employed a 1:100 arecoline-hydrobromate solution with success. The writer states further that such a solution, sterilized at 100° C., has preserved its physiological properties unchanged for upward of one and a half years.

Tannalbin Therapeutically

Dr. Carl Holzapfel (*Deutsche med. Woch.*, XXII, p. 812) gives the result of his use of tannalbin in ninety cases of diarrhea, of whom sixty-five were 1 year old or less, the rest being children and adults, among the latter being a few phthisical cases. The diarrheas of the latter were usually improved, and even entirely checked by sufficiently large doses. Among the infants, after two or three days, the dejections in the milder cases became normal, and in the more severe, having twenty or more examinations daily, the number was at first reduced, and in from four to seven days improved. In control-cases that were only dietetically treated, alleviation first set in after several days in the milder cases, whereas in the severe no results were obtained at all, and recourse was finally necessary to tannalbin. It was found, too, that even calomel failed to yield such excellent results as were uniformly obtained from tannalbin. According to the writer's investigations, therefore, this remedy deserves preference above all others heretofore employed in these affections. The doses usually given were 1 gme. to adults, 0.5 to 1 gme. to larger children, and 0.25 to 0.5 gme. to nursing children, without any addition. As a rule, eight doses sufficed, when three or four were given the first day at hourly intervals, a like quantity given similarly the second day, and the balance given the third day. These seemed to be the minimum doses that were at all effective, and, where it appeared to be necessary, the dose and its frequency were increased and continued for a long time, until the desired results were had, and without the least disagreeable effect ever being observed. F.

Methylene-blue in Migraine

Induced by the favorable reports of Drs. Immerwahr and Bruno Levy, Dr. Brückner employed methylene-blue in a most obstinâte and violent case with magical results (*Aerzt. Runds.*, VII, No. 32). The patient was an 18-year-old neurotic girl, who for weeks had been tortured with most violent, excruciating headaches, that deprived her of sleep absolutely, so that she feared she would go insane, as her father did. After all the usual remedies failed, methylene-blue was administered. After two capsules of 1½ grn. each were taken, the headache disappeared ("as if blown away," as the author says). Six capsules were taken in all, and the headaches have not returned. It is worthy of notice, that in this patient not only the urine was blue, but the entire body, and especially the sclera, was of a bluish tint, which disappeared in a few days. Each capsule contained a grain and a half of methylene-blue, with the same amount of powdered nutmeg. M.

The Abortive Treatment of Influenza with Calomel

Dr. G. Freudenthal claims to have discovered in calomel a true, absolute, and unfailing specific for the treatment of influenza (*Therap. Monats.*, Vol. XI, No. 10, p. 524).

The author has employed it during the last five years, and with invariable success. The only *sine qua non* is that it must be administered on the first or second day, but not later than the third day, as then its specific abortive treatment is lost. The calomel is given in doses of from 1 to 1½ grn.; to children in doses of 1 ctg. (1-6 grn.) for each year of the age. Two or three doses always suffice to produce the favorable effects, which consist in a diminution of the temperature (six to ten hours after the taking of the calomel), and in a relief or total disappearance of the headache and pains in the back. The entire course of the disease becomes milder and shorter. In a statistical table of thirty-two cases, the average duration was three days. That the epidemic was not of a mild type, or that the cases are not selected ones, the severity of the initial symptoms, the temperature of 105-106°F, the severe cough, hallucinations, etc., prove conclusively. In many cases the calomel was the only medication needed, in others mild antipyretics and diaphoretics were added.

The author does not say exactly how the calomel acts, but offers the following hypothesis, which seems to him very probable. The influenza bacilli are at first situated in the upper portion of the respiratory tract, in the tonsils, pharynx, etc., and become destroyed by the corrosive sublimate, into which the calomel is supposed to become converted. The reason the calomel has no abortive action after the third day is because at that time the toxins generated by the bacilli are already in the general circulation.

[We have had some very good results from calomel in influenza, but the author's exexplanation of the *modus operandi* seems to us exceedingly grotesque.] M.

Pyoktanin in the Treatment of Inoperable Malignant Growths

Dr. H. R. Slack (*Atlanta Med. and Surg. Jour.*, Aug., 1897) describes his use of pyoktanin in the treatment of malignant neoplasms. The injection should be made under strict aseptic and antiseptic precautions. The skin where the needle is to enter should be thoroughly cleansed with bichloride-solution, and the needles may be long, short, or curved, but must not be of too small caliber, and should be boiled after using. The author used the large hypodermic syringe and injected from 1 to 2 c.c. (15 to 30 m.) of a 2-per-cent. solution. This is more than twice the strength recommended by Drs. Meyer and von Mosetig. The pyoktanin pencil, 1-per-cent. solution, or a 2-per-cent. powder, as the case may require, is given the patient to apply daily.

Thus far the author has seen no untoward effects from its use. The only objection to it is that it stains everything with which it comes in contact. Its analgesic effects are marked, as patients soon rest easily without the aid of morphine. The improvement of the function of the part involved is pronounced—the man who could hardly speak so as to be understood talked without difficulty after the third injection. The improvement in general health which has taken place in all five of the writer's cases is remarkable.

While Dr. S. does not claim to have cured his patients, he has relieved their pain and rendered them less burdensome to themselves and their friends. He agrees with Dr. Meyer in von Mosetig's conclusions, that it has been proved by practice that parenchymatous injection of inoperable malignant growths with pyoktanin can produce disappearance of malignant tissue, though only in exceptional cases, and can heal neoplastic ulcerations. F.

The Action of Potassium Nitrate in Cardiac Disease

Dr. Krivonogoff has employed potassium nitrate 10 grn. six times a day on sixteen patients affected with heart-trouble and in a stage of asystolysm, and reached the following conclusions (*Thesis of the University of St. Petersburg*, 1897):

1. The cardiac beats increase in intensity and diminish in number; the arrhythmia is diminished.

2. The passive congestion in the lungs, in the liver, and in the kidneys diminishes; the diuresis increases, the edema and albuminuria disappear.

3. The general condition is constantly improving. In eight cases the success of the treatment was complete, in five it was satisfactory, and in three—where the cardiac affection was complicated with cirrhosis—the improvement was temporary. It is especially in affections of the myocardium, and in arterio-sclerosis that the saltpeter treatment is indicated.

Finally, the author tells us that his clinical observations regarding the action of potassium nitrate on the strength and number of the cardiac beats were confirmed by him by numerous experiments upon the lower animals. M.

Thyroidine in Diabetes

Fontana and Grasselli (*Gaz. Med. di Torino*, Aug. 26, 1897) have made a series of experiments with thyroidine to ascertain its action on the organism in glycosuria.

The selected patient was 60 years of age and had been drinking about three liters of wine and 250 gme. of liquors daily for twenty years. At the age of 50 he began to suffer with transitory glycosuria. This was often accompanied by lowering of the temperature in the morning, 35°C. His weight was then 95 kg.

When the thyroidine treatment was begun the urine was pale yellow and gave a marked reaction for glucose, and without albumen, acetone, or any other abnormal ingredient. The case was not a very grave one.

The patient was under treatment for twenty days. He used four thyroidine tablets daily for nine days only, because phenomena of intolerance came on.

The case was studied as to the albumen, urea and uric acid, sulphur, phosphorus, and hydrocarbonates. The conclusions are as follows:

1. Increase in sugar and quantity of urine.

2. Increase in the decomposition of albumen.

3. Great increase in the quantity of the urea, with slight elevation of ammonia, and decrease of uric acid.

4. Diminution of the ratio between acid and neutral sulphur.

5. Slight increase in the elimination of phosphorus.

6. Diminution of the weight of the body. W.

Freckle-lotion

The following formula is recommended (*Jour. de Méd. de Paris*):

Mercuric Chloride.......	0.5 gme. (8 gru.)
Sugar.....................	15 gme. (4 dr.)
White of one Egg.	
Lemon-juice.......... ...	30 gme. (1 oz.)
Distilled Water	250 gme. (8½ oz.)

To be applied every morning and allowed to dry on.

Tannoform in Intestinal Catarrh

Dr. Carl Skizlai reports (*Therap. Woch.*, IV, p. 1050) having used tannoform in forty cases of intestinal catarrh in children, with failure in one case, the patient being moribund when brought for treatment. It was found that two or three doses of from 0.01 (1-6 grn.) to 0.025 gme. ($\frac{3}{8}$ grn.) sufficed to check the diarrhea, the entire ten powders prescribed in each case being rarely required.

The remedy was found equally effective in the intestinal diarrhea of adults as well, its action even in tuberculous cases being reliable. It acted very promptly also in dysentery.

None the less satisfactory, states the author, is its action in hyperidrosis, which it promptly and permanently checks. The remedy was also found excellent for dusting on recently abraded surfaces, sores, and wounds. In ulcus crurum varicosum, tannoform, used as a dusting-powder, acted very beneficially. Tannoform so applied to sores, combined with the albumin of the secreting wound, forming a dark-brown stain which frequently frightened patients.

The stain is, however, readily removed by washing. The remedy is also useful in decubitus and in ulcus specificum, in the latter it appearing to be particularly applicable, relieving the pain and checking the secretion, thereby making the use of this remedy preferable to the others usually employed.

Ovarian Opotherapy in the Insane

Dr. R. Tambroni, of Ferrare (*La Sem. méd.*, XVII, p. 202), has experimented with ovarian substance upon seven insane patients (two men and five women). The substance was exhibited in a fresh state, both per os and by subcutaneous injection. The physiological effect of the medication was manifested in both sexes by an improvement in the appetite, augmentation of the frequency of the pulse and respiratory movements, and also by an elevation of temperature.

A young woman upon whom ovariectomy had been performed, and a young hystero-epileptic man, were observed to grow worse under the ovariin treatment. On the contrary, in the other four women, who all suffered from amenorrhea, menstruation was re-established, and the psychic troubles improved. Ovarian opotherapy seems, therefore, to be of service in mental affections complicated with menstrual troubles.

Sodium Tetraborate in Otorrhea

Dr. R. Kafemann (*Pharm. Ztg.*, XLII, p. 97) recommends the substitution of warm 50-per-cent. injections of sodium-tetraborate solutions in chronic otorrhea, instead of borax. The injected solution is permitted to cool in the aural passages, when the tetraborate crystallizes out. Frequently after a few days, but usually after two weeks, the repeated use of the solution causes the entire disappearance of the otorrhea. The tetraborate possesses the valuable property of not immediately crystallizing out from its hot, concentrated solutions, as do other salts, but only after some time, thereby permitting the employment of solutions containing 50 per cent. and upward in the aural passages. F.

Hydrozone and Glycozone in Gonorrhea

In a communication to the *N. Y. Med. Jour.* (September, 1897) Dr. Warren E. Day takes exception to an article by Dr. J. A. Silverman (published in same journal July 3), who says "that no antiseptic has been discovered that will destroy the gonococcus, without doing injury to the mucous membrane." Dr. D. cites four cases, however, treated successfully with hydrozone and glycozone, which he considers not only harmless, but the most powerful healing agents that he has ever used.

In the first case cited the disease was of a severe type, with profuse discharge, painful micturition, inflamed meatus, pus-sacs in canal, an acute burning sensation in the urethra, and of four weeks' duration. The discharge contained numerous gonococci. Dr. D. prescribed injections of one part of hydrozone and ten parts of sterilized lukewarm water, an ounce for each injection, four times daily. After two days no gonococci could be detected, and so the proportion was reduced to one part of hydrozone and fifteen parts of lukewarm water, and at night glycozone mixed with an equal amount of pure glycerin was injected on going to bed. In twelve days the patient was well.

The second case was that of a married man who had contracted blennorrhea from a woman who had the whites. The same line of treatment proved so satisfactory that he brought the woman, and she too was cured within three weeks. The last case mentioned was that of a countryman 50 years of age who got the disease from a courtezan and was unable to get treatment for ten days after its onset. His symptoms were very aggravated with chordee every night that set him, as he said, "plumb wild." The hydrozone-injections were given at first as weak as one in twenty, owing to the great sensitiveness of the urethra and the danger of orchitis. The glycozone was ordered at night diluted with equal parts of glycerin and given in medicinal doses internally to allay gastric disturbance. The treatment was continued twenty-five days, when the patient was sent off happy. B.

Iodoformal.

Dr. F. Reuter states (*Therap. Woch.*, IV, p. 1052) that iodoformal exceeds iodoform and iodoformin in antiseptic power, and that it may be applied with advantage in purulent wounds, ulcer of the leg, urethritis, vulvitis of gonorrheal origin, furuncles, and other inflammatory processes. It may be applied as a dusting-powder, or in form of the following ointment:

Iodoformal	1 gme.
Balsam Peru	5 drops
Anhydrous Lanolin	
Vaselin	of each to make 10 gme.

In vulvitis gonorrhoica, iodoformal is employed as a dusting-powder; in chronic gonorrhea, that had resisted all other medication, it was found to be effective in the form of pencils made with 20 per cent. acacia and glycerin. Iodoformal is said to be free from disagreeable by-effect.

REVIEWS

The Medical News Visiting-list for 1898.—Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year); and Perpetual (undated, for 60 patients weekly per year). The first three styles contain 32 pages of data and 160 pages of blanks. The 60-patient Perpetual consists of 256 pages of blanks. Each style in one wallet-shaped book, with pocket, pencil, and rubber. Seal Grain Leather, $1.25. Thumb-letter Index, 25 cents extra. Philadelphia and New York: Lea Brothers & Co.

A systematic man is usually a successful one. No busy medical man can be systematic without a visiting-list. Memory is treacherous, and is particularly so among those who have much to think of. To overcome its defects in what, for our own personal interests, are the most important transactions of life a visiting-list is indispensable. We know of none better or more convenient, in size, contents, and form than that published by Lea Brothers & Co. Its table of diseases with remedies, doses, poisons with antidotes, and of eruptive fevers, together with its sections on incompatibles, urinalysis, artificial respiration, ligation of arteries, metric system, etc., make it a most useful ready-reference volume to the physician away from his library and wanting reminders on such subjects. As a legal record of outstanding bills it is a necessity to many. The blank pages are ruled in a way that is neat, handy, and convenient. The thumb-letter index peculiar to this list is a valuable time-saver in looking up names and accounts when in a hurry.

A Manual of Legal Medicine: For the Use of Practitioners and Students of Medicine and Law.—By Justin Herold, A.M., M.D., formerly Coroner's Physician of New York City and County; late House Physician and Surgeon of St. Vincent's Hospital, New York City. Philadelphia: J. B. Lippincott Company. London: 6 Henrietta Street, Covent Garden. 1898.

That there is a growing interest in medico-legal questions among the medical profession of this country is evidenced in the fact that our medical journals are having more to say on such subjects than formerly, there are more papers read at medical conventions thereon than there used to be, medico-legal societies are now more perfectly reported, and books on such subjects as the one before us are increasing. Dr. Herold, in his preface, tells us that "It is a curious fact that in no part of the civilized world is the subject of legal medicine more neglected as a scientific study than in this country." If we can judge from the signs of the times this reproach is not likely to last long, as applied to us. This very book goes far toward improving matters here. As experience is always the best teacher, and as the author of this book deals only with things and facts which his experience has brought before him, its contents are naturally of a superior character. The thoroughly practical character of the subject-matter of the volume cannot be better set forth than by quoting from the preface. There we are informed that "The body of the work commences with a short dissertation treating of principles, or, in other words, furnishing the reader with the medical and legal definitions of a poison, together with the administration, effects, absorption, elimination, and antagonism of these deleterious substances. The second chapter of the first part, entitled Evidences of Poisoning, includes remarks relative to poisoning in the living, evidences from the symptoms, diseases simulating poisoning, and the general treatment of these cases. The Evidences in the Dead Subject are then discussed, together with questions of forensic importance relative thereto. Chapters III and IV embrace the rules and duties to be observed in poison-cases, and the classification of these substances. The remaining chapters of Part I are devoted to a discussion of the various drugs, with the exception of Chapter XVI, which comprises those poisons formed during the process of decomposition—ptomains and other putrefactive products. Embalming in its medico-legal aspect is also included here. The more important poisons (morphine and opium, nux vomica and strychnine, belladonna and atropin, arsenic, hydrocyanic acid, phosphorus, etc.) have received special attention." The Appendix is a very interesting addition to the volume, inasmuch as it recounts the particulars of a large number of famous poison-cases, such as the Jennie Cramer, Dr. Meyer, Dr. Buchanan, Carlyle W. Harris, and the Holmes cases. The mechanical work of the volume is all that could be desired.

The American Academy of Railway Surgeons.—Report of the Third Annual Meeting, held at Chicago, Ill., September 23, 24, 25, 1896. Edited by R. Harvey Reed, M.D., Columbus, O. American Medical Association Press. 1897.

The third annual report of the transactions of the American Academy of Railway Surgeons is contained in a volume of 282 pages, six chapters in all. The first chapter is devoted to proceedings; the second to an address on expert testimony; the third to miscellaneous medical subjects; the fourth to fractures and bone-trauma; the fifth, injury of the joints; and the sixth, injuries of the eye.

According to the preface, the present volume contains over fifty pages more of reading-matter than the last. It is embellished with excellent portraits of various members of the Academy, that of Dr. Owens, of Chicago, graces the frontispiece. The typography is excellent, and any one fortunate to be in possession of a volume will be amply repaid for the time consumed in reading the many valuable articles it contains.

Spinal Caries; Spondylitis or Pott's Disease of the Spinal Column.—By Noble Smith, F.R.C.S. Edin., L.R.C.P. London. Surgeon of the City Orthopedic Hospital; Surgeon to All Saints Children's Hospital; Orthopedic Surgeon to the British Home for Incurables. Second Edition. Smith, Elder & Co., London, 1897. 5s.

The author has given in one hundred and fifty-three pages an excellent résumé of this surgical disease. The first chapter contains a general description of the disease and presents it in a clear and comprehensive manner. The paragraph devoted to etiology could be enlarged, and would add materially to the value of this chapter. The general diagnosis and symptoms are taken up in the next chapter, and this is followed by a consideration of other diseases which may simulate caries.

The treatment is considered in a succinct and common-sense manner. The book is profusely illustrated and is well printed and neatly bound.

CORRESPONDENCE

A Treatment for Obesity Wanted

To the Editor of the A. M.-S. BULLETIN:

Your "A Word to Our Readers" in present issue sounds the right note. The position occupied by the journal has always been very high and leading. I cannot afford to be without it, and never lose an opportunity to drop a word in season among my friends. I am very desirous of getting hold of the literature on a safe treatment of obesity. In your columns I have seen notes of new remedies, but cannot now lay my finger on the one I want. Will you kindly direct me to a line of treatment standing the test.

ANDREW GRAYDRON.

Bloomsburg, Pa., Nov. 12, 1897.

The Metric System

To the Editor of the A. M.-S. BULLETIN:

I note with disfavor the fact that the metric system is used in your journal to the exclusion of the old system. This is against you in this part of the country, where many, yea, most physicians know little of the metric system, caring less, but cling to the old system. If your journal must give it preference, it should at least include the old alongside, to give you the largest scope.

A. P. REED.

Naples, Me.

Indolent Ulcers in the Tropics

To the Editor of the A. M.-S. BULLETIN:

While in Africa in the interests of missions, I had opportunity to see a great many cases of chronic ulcers, often termed fever-sores, which are the most painful and trying affliction met with by the missionaries in that country.

In medical parlance it is termed the indolent, phagedenic, or endemic ulcer. It is observed more frequently in tropical climates, where there is a constant lowered vitality due to the enervating climatic conditions and lack of a properly nourishing diet. Especially among the natives who live on rice, fish, and fruits, the ulcers flourish like the green bay-tree.

The trouble begins from a little contusion on the leg which fails to heal, but breaks down, forming an ulcer which continues to discharge in spite of all endeavors to cure. The treatment among the natives is very crude, consisting in simply applying to the ulcer a leaf from some of the native shrubs which closely adheres to the skin.

The ulcer is especially troublesome to the white inhabitants, resisting every kind of treatment as long as they reside on the coast, and often compelling them to remove to a temperate climate in order to effect a cure.

One case of this nature came into my hands while in Liberia. The wife of a German merchant whose family I had attended asked me to do something for her limb, which I found upon examination to have surrounding the ankle and upon the front of the limb, three large and two small ulcers, all very painful; these sores had been there for eleven months, and had been treated constantly by the various ship-surgeons who had visited the port, and all without success, and they had become quite discouraged and were making preparations to return to Germany, as the ulcers made her almost a helpless invalid.

I had treated many cases before with indifferent results, and commenced the treatment without any promises and not many expectations. After washing the ulcers with hydrozone, one part to eight of boiled water, I dusted the ulcers carefully with protonuclein special, dressing twice a day and giving the protonuclein tablets internally three times a day. There was some irritation of the surrounding tissue, due, I think, to the too free use of the powder locally, as it readily disappeared on the more careful application of the dressing; in two weeks the four smaller ulcers were healed and the fifth nearly so, and before the end of the fourth week the last and largest one had disappeared before the magic effect of this treatment.

This was the first case receiving this treatment, but in a record kept of some two hundred cases subsequently treated in this manner, with but one exception all healed speedily and satisfactorily, even beyond my most sanguine expectations.

WALTER N. FOWLER.

Bluffton, Ind.

The Woodbridge Treatment of Typhoid

To the Editor of the A. M.-S. BULLETIN:

In your publication of November 10 you ask for discussion of the Woodbridge treatment of typhoid fever. One has hardly the temerity to discuss cases of typhoid fever at present, provided Widal's test has not been employed and any good has resulted from the treatment, those who are adverse to what we express are almost certain to deny the diagnosis.

However, I have had in the last three years what to my mind was typhoid fever with the characteristic onset and eruption aborted at least four times. My diagnosis was typhoid, and I feel sure that they were genuine cases. The fact of their getting better in less than the regular time would indicate that they were not, to many, unless corroborated by the classical test.

I believe the principles of the Woodbridge treatment are thoroughly correct. Whether it is necessary to use the exact formula of Dr. Woodbridge at 15-minute intervals, I am not prepared to say; but I believe that if with each tablet that is taken there are given six or eight ounces of water, if possible, the greatest good will result. If I were to have an attack of typhoid fever and could have just one remedy, I should prefer water carefully boiled and cooled, and as an addition to that, the principles advocated by Woodbridge. During the past year, instead of using the capsules of Dr. Woodbridge for intestinal antisepsis, I have employed at the suggestion of Dr. ——, of Troy, N. Y., protoiodide of mercury, which seemed to be more positive in its action than the capsules of Woodbridge.

Dr. Woodbridge says, give a draught of water with each of his tablets; if he were more specific and urged the water for its own action and designated the enormous quantity required, after the method of Dr. Hun, of Albany, I believe he would have an ideal treatment. Few practitioners appreciate what is meant by water in typhoid fever. I am familiar with not a few cases that required from two to four gallons daily, to keep the delirium, sordes, and nervous manifestations in abeyance. It is a remedy that will be slow to come into general use. I listened for two years on the subject of water, and then did not know how to use it until two years ago, when my wife nearly succumbed to the disease, and I know surely would have done so but for the wise directions of Dr. Hun, of Albany. I learned at that time the value of water in proper quantities, which is very useful now to me in my practice.

D. C. MORIARTA.

Saratoga Springs, N. Y.

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Editor: ROBERT G. ECCLES, M.D.

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EDITOR'S NOTES

In our issue of Nov. 10 we asked our readers to give their experience with the Woodbridge treatment of typhoid fever. In this number we publish the reply of one of our readers who has used it. In the *Memphis Medical Monthly* for November there is a letter from Dr. Woodbridge, in which he says that up to that time, in 9177 cases treated by his method there were reported 173 deaths, thus giving a death-rate of 1.88 per cent. The average duration of treatment in 5543 of the cases was 12.7 days. Of the doctors who reported on these cases thirteen of them, with 136 cases out of which there were twenty-six deaths, are now opposed to the treatment. The large number of doctors who treated the 9041 cases, with 147 deaths, he says are enthusiastic advocates of the system. Among those opposed one refused to submit the clinical history of his cases to inspection. Some large hospital should take the matter up and give it a fair trial for the good of the profession. While all must admit that it is not possible to make the intestinal tract aseptic by any known or conceivable method of treatment that will not kill the patient, still it is quite reasonable to suppose that internal antisepsis may be carried far enough to lower the vital powers of special forms of micro-organisms, so as to give the host the advantage in the struggle.

One of our correspondents, whose letter appears in the Correspondence Department of the BULLETIN, objects to our use of the metric to the exclusion of the older system of weights and measures. The BULLETIN seeks to be in the front ranks in every progressive measure, and so it has adopted the new system in all of its abstracts and reports. As, however, we wish our subscribers to get the knowledge which we seek to impart with a minimum of trouble, we shall, hereafter, seek to have all quantities expressed in both systems, and hope this will meet with the approval of all our subscribers. We are sorry to notice that the metric system is not making the headway which it deserves in this country. Even in our large cities but few medical men use it. That it is not used in villages and country places is not to be wondered at, since there is some danger of mistakes being made by the druggists who have not the proper weights and measures on hand, and who are therefore compelled to figure out the amounts intended with often a meagre ability to do so. Druggists in large cities all have metric weights and measures on hand and have no such changes to make. The city doctor should try to encourage the reform. After once mastering its principles he would find it much easier than the present cumbrous method. All official medicines are now made by the metric system, so that calculations of doses are mere approximations when made in drams, grains or minims.

Another correspondent asks for a proper line of treatment for obesity. The newest remedy now used is thyroid extract. Tablets can be found in many drug-stores. The older remedies were fluid extract of phytolacca- (pokeberry) root in doses of about five minims, and extract of Fucus vesiculosus (sea-wrack) in doses of three or four grains three times a day. Those who have had experience in treating obesity generally agree in claiming that as a rule the best results can be secured from dieting the patient and keeping him well exercised in the open air. The supply of carbohydrates and fats should be limited, and except in gouty and diabetic cases liquids of all kinds should be limited to the smallest quantity possible. Beer, wine, and liquors of all kinds should be prohibited. The so-called Banting system permits of the use of an abundance of water, and also allows the use of red wine, but it has not proven very satisfactory. Dr. Weir Mitchell recommends a diet of eggs and milk to the exclusion of everything else. He orders the patient to take an egg with half a pint of milk every three hours while awake. This he keeps up for three weeks. If any of the readers of the BULLETIN can suggest any better plans than those given we should like to hear from them.

Since the meeting of the Berlin Leprosy Conference the current of opinion among medical writers and editors has been running strongly against the action of the New York State Board of Health toward the lepers of this State. The editor of the *New Orleans Medical and Surgical Journal* is particularly hard upon the members of the Board, and says that they have "assumed a responsibility which they have no right to declare, and for which another generation will curse them, if the present generation does not force them to repeal it." The editor tells us that while the men who know leprosy were trying to teach the world its horrors the State Board was being "guided by uninformed and inexperienced medical men of reputed standing." He pronounces their act in freeing lepers from isolation-restrictions "a criminal miscarriage of justice upon the people of the city of New York." While we do not attempt to say that the action of the State Board was right, inasmuch as we are not experts upon the subject, still we can see much to justify them in what they did, and that those now crying out against them do not seem to consider. While there is evidence that leprosy is contagious, that evidence goes to show that it is usually less so than tuberculosis, and no one has yet attempted forcibly to isolate consumptives. The experience of Wisconsin and Minnesota seems to stand as a complete justification of what this Board did, inasmuch as no one has risen up to curse the officers of these States for letting 160 Norwegian lepers have their freedom. These lepers have had time enough to have infected the whole region around them and yet no one seems to have been injured by their presence for so many years. Out of the 160, only about a dozen now remain. From California we have heard nothing of the spreading of this disease, although that State has many Chinese lepers. If the conditions of life or the climate of Louisiana permit of the spread of the disease, with even the frequency of tuberculosis, the people of that State need not follow the precedent established by the Board of New York State.

To advertise or not to advertise is evidently at present the pressing question among the medical men of many of our large Western cities. As the struggle for existence intensifies, the desire to throw off the restraint imposed upon them by the code of ethics becomes more intense. How it will all end no one is able to foresee, but it will be a sad day for medical science if this method of the quack ever is adopted by the rank and file of medical practitioners. As things now are there is some chance for the survival of the best, as in many instances the best is the fittest. Under a reign of freedom to advertise there could only be a survival of the most conscienceless. A physician's success under such conditions would depend upon his skill in humbugging the public. The one making the largest claims and boldest pretensions would be the one sought for by the masses. At present it is understood that the best medical men do not advertise, so that but few educated people become a prey to quacks. Most of the victims at present come from among the uncultured. A change of policy by the profession would certainly result in turning over the whole people to unscrupulous quacks. Decent men would stand no chance in so vulgar a scramble. The only guide the better class of patients now have would be taken away. If we can rely on recent reports from Kansas City, Mo., physicians there are surging ahead in the mad scramble for public recognition of the baser type. The *North American Medical Review* published in that city, speaks of it as "the more liberal ethics," and with apparent approval states that the *Kansas City Journal* is responsible for the statement that the County Medical Society will hereafter "con done advertising among their many members who prefer to indulge in it." We can hardly believe that this can be true, but as it is published in a daily paper of that city and repeated in a medical journal published in the same place, it looks as if there might be some foundation for the claim. Can some member of the Jackson County Society enlighten us in this, as it is a matter of very much more than local importance.

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Citric Acid as an Antiseptic

Dr. Müller (*Therap. Monats.*, XI, 4) reports very good results from the employment of citric acid in the treatment of wounds and ulcers. A large ulcer of the leg in a man 67 years old, that resisted treatment with all known antiseptic powders and solutions for four months, was completely healed within two months by the application of pure lemon-juice and by wrapping with cloths saturated in a 5-per-cent. solution of citric acid. M.

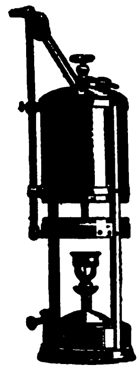
PUBLISHERS' DEPARTMENT

MARAGLIANO'S SERUM

The anti-tubercular serum, prepared according to Prof. Maragliano's method, possesses, like similar serum-preparations in use for other diseases, the property of investing the system with the power of resisting infection.

When the body is incapable of assisting in combating the disease, the specific serum becomes of no help and its employment is useless, though innocuous. This rule is also applicable to the anti-tubercular serum. Every cubic centimeter of serum contains 100 antitoxic unities. J. W. Wuppermann, 35 Broadway, is the headquarters for this serum.

A FORMALDEHYD GENERATOR



H. K. Mulford Company, of Philadelphia, have secured the full control of the disinfecting apparatus recently perfected by the Sanitary Construction Company of New York. This apparatus, here figured, is economical, convenient, and efficient, and is known as the Sanitary Formaldehyd Regenerator. The gas is not generated under pressure, so there is no possible danger from explosion. The apparatus is portable and easily operated. In disinfecting apartments, for which it is especially adapted, the apparatus is always on the outside, the gas being introduced through the keyhole, or other convenient aperture.

The gas is rapidly liberated from commercial formaldehyd (40 per cent. aqueous solution). It is claimed for this generator that no polymers are formed to arrest the process or make the gas inert. All readers interested in disinfecting should not fail to write Mulford Company for the new Brochure "Formaldehyd Gas as a Germicidal and Disinfecting Agent."

ANTIKAMNIA AND CODEINE

"Antikamnia and Codeine" tablets, each containing 4¾ grn. antikamnia and ¼ grn. sulphate codeine, have been recommended in acute and chronic disorders of the lungs. The combination is indicated where a sedative to the respiratory centers is required for the relief of cough, and in fact nearly all neuroses of the larynx. To administer these tablets in the above conditions, place one tablet in the mouth, allowing it to dissolve slowly, swallowing the saliva. Exhibited in the grinding pains which precede and follow labor; in the uterine contractions which often lead to abortion, as well as in the nocturnal pains of syphilis, the results are stated to be most satisfactory. In the various neuralgias, and in all neuroses due to irregularities of menstruation, the tablets should be crushed before taking, to insure the best results.

CAMPHO-PHÉNIQUE AND BURNS

The following formula has been recommended in the treatment of burns:

Cocain Hydrochlorate	5 grn.
Campho-phénique	¼ oz.
Olive-oil	½ oz.

The cocain and campho-phénique should be rubbed up first, and the olive-oil added. A case is reported in which this application absolutely relieved in less than one minute, according to the patient, the excruciating pain of a hand that had been badly burned by an electrical discharge.

NEWS

A paper defending the use of cigarettes was read at the November meeting of the New York Medico-Legal Society.

The New York Medical Association, at its last meeting, voted $2,000 out of its surplus of $3,500 in the treasury to redeem the pledge of the State to the Rush monument fund.

The doctors of Leadville, Col., have called upon the Court to settle the diagnosis of a supposed case of scarlet fever. "When doctors differ who shall then decide?" The lawyers.

Dr. Samuel Cochran, editor and proprietor of the *Louisville Medical Monthly*, has given up his chair of physiology and his clinical lectures on dermatology in the Louisville Medical College.

Eight New Britain (Conn.) physicians were lately fined ten dollars each and costs for neglecting to make proper returns of births to the County Health-officer. The costs in each case were $9.07.

Dr. J. C. Culbertson, editor and publisher of the Cincinnati *Lancet-Clinic*, has been sued by J. H. Deters, an electric lineman, for $5,000 damages for defamation of character. The doctor charged him with having stolen something from his office.

A prominent physician of St. Louis who had become a morphine-eater, lately determined to break himself of the habit. He was using 100 grn. per day. The attempt was too much for him, as he died after great suffering, at the Mayfield Sanitarium.

The *Journal of the American Medical Association* says that an insurance agent has been working the medical men of Cleveland by getting them to take out policies for $5,000 on their lives under the promise that they would be appointed examiners for that region.

Pennsylvania has a Society for the Prevention of Tuberculosis. Any person may be enrolled as a member by paying into the treasury one dollar. Tracts giving instructions concerning tuberculosis and how to avoid spreading it are being distributed by them through the State.

The Oakland Heights Hotel, near Asheville, N. C., has been negotiated for by a new sanitarium company, composed of active and retired surgeons and officers of the U. S. Army. They propose to erect buildings costing $100,000, employ eminent specialists, and treat chronic diseases, particularly tuberculosis.

The loss of the South through the arrest of its commerce because of the invasion of yellow fever has been computed at $60,000,000. This allows nothing for the loss from general paralysis of business, following the direct loss, and nothing for the deaths and suffering of the afflicted. It is a terrible penalty to pay for filth.

Reports from Omaha, Neb., state that a strange contagious skin-disease has lately been raging there. Over 10,000 persons are said to have been attacked. The body becomes covered with small inflamed eruptions that finally dry up and scale off like scurvy. Barbers and druggists are said to be selling a salve to allay the inflammation.

The Denver *News* says that an examination was lately made of some electric belts sold by a street fakir at Ottawa. It was found that beneath a strip of gauze was a layer of dry mustard. When the wearer perspired a little the mustard was moistened, and set up a burning sensation, and the deluded victim believed a current of electricity was passing through him.

Prof. Thomas R. Fraser, of the University of Edinburgh, Scotland, claims to have discovered an antidote to snake-bites in the bile of snakes. The antidote is administered hypodermically and requires a smaller volume to neutralize the poison than the total quantity of poison introduced. It is claimed to be more potent than any anti-venomous serum yet produced.

Dr. Nicholas Senn, of Chicago, was lately taken to Galena, in care of a sheriff, to answer to the charge of contempt of court. As it turned out that his evidence was immaterial to the case, where he refused to appear, and as the judge found he was a very busy man, having much more important public duties than the neglected one pressing upon him, he was forgiven by the Court.

A New Jersey doctor, who conducts a sanitarium in that State, was lately tried in New Brunswick for polluting the stream near his place, and that others are compelled to drink. The doctor believed in curing his patients of cutaneous and other diseases by having them wade in the water. As the people of that region did not quite like such treatment of their stomachs he was convicted.

Under the heading: "What will we do with it?" the *Colorado Medical Journal* and the Denver *Republican* contain articles dealing with next year's meeting of the American Medical Association. The effort will be made to show the advantages of Colorado as a home for consumptives to the visitors when they come. Already preparations have begun for their entertainment, and every effort is making to have the attendance large.

London has an association for the prevention of premature burial that is organizing branches throughout Great Britain. In Turin, Italy, a medical convention lately convened to enquire into the subject of apparent death, and how to prevent premature burials. In Russia, Germany, France, and Austria, the same subject is eliciting a great deal of attention. Europeans cannot understand why Americans care so little for this to them burning question.

Dr. W. S. Gottheil reports in the New York *Medical Journal* a decision of the Supreme Court of New York, where it was declared that a doctor cannot collect a fee for the treatment of a minor in the home of a well-to-do sister, when the parents of the minor are residents of another State. In all such cases the doctor should have the written agreement of some responsible person that they will pay, otherwise he cannot legally collect anything.

A French physician, too poor to buy instruments, after waiting for patients until he had only twelve cents in his pocket, was suddenly called to an emergency-case of difficult labor, in which he found it necessary to perform craniotomy. He used carpenters' tools, and the woman died. He was tried and imprisoned for malpractice. The medical men of France and a famous dramatic critic have taken up his case, and the press generally is in sympathy with him.

Prof. Coomes, of the Kentucky School of Medicine, has begun a suit to restrain Prof. Woody, the dean, from issuing the college catalogue. Dr. Woody seeks to ignore Dr. Coomes' appointment of an assistant, and places another in his stead in the new catalogue. The claim is made that the laws of the institution invest each professor with the power of appointing his own assistants. This law, the dean seeks to ignore, much to the displeasure of Dr. Coomes.

The fraternal orders of Canada are up in arms against the Montreal College of Physicians and Surgeons, because of its attitude toward medical men who become their doctors. They claim that less than 55 per cent. of their members are attended by the lodge doctor, and they are those that are too poor to pay a doctor, and so would become dispensary or hospital charges. They think their doctors are better paid for the services rendered than if they received their regular fees.

In a letter to the *Medical Summary* Dr. Elmer Lee, of New York City, says: "The study of bacteriology has about as little to do with the practice of medicine as has mineralogy, and in some quarters there is an indication of reformation and a return to simplicity—a day to be wished for, in the name of both science and the best welfare of the sick." What wonder that laymen make fools of themselves in medical matters when such Philistinism comes from a member of the profession.

Dr. D'Evelyn, of San Francisco, is getting himself well advertised by his "equisine." He is taking the boys from the various public institutions of that city and inoculating them with it. As it will be many years before the results of his treatment can be known, the medical profession will have to wait patiently before knowing whether or not his plan is a good one. The County Society evidently has but little faith in him or his anti-jag treatment, for without awaiting results they have begun to discipline him.

The Denver *Republican* tells the Colorado doctors that they have made a very bad mistake in fixing the time for the next meeting of the American Medical Association. The editor declares that meteorological statistics prove beyond question that the wettest, most dismal, and dreariest time in the year is the time appointed for the meeting. He asks them to send out and have the officers change the date before it is too late and before the good name of their State is ruined by the doctors of the country getting a bad impression of its advantages as a health-resort.

Dr. Howard H. Anders, of Philadelphia, presented the following resolution at the third day's session of the late meeting of the American Public Health Association:

"Whereas, The common and promiscuous public use of drinking-vessels, under existing conditions, and well-established hygienic principles, is positively and essentially unclean and insanitary, and, therefore, a menace to the public health; and

"Whereas, During the past three years many churches of various denominations have recognized the need of prophylaxis in administering the communion wine, by adopting individual communion-cups, or chalices, as being cleaner and safer, at the same time not less satisfactory and sacred, as substitutes for the communion-cups; be it hereby

"Resolved, That the American Public Health Association, in indorsing the individual-communion-cup reform, approves cordially the action of the churches, and recommends earnestly the adoption, for sanitary reasons, of individual communion-cups wherever communion-cups are now in use; and, further, be it

"Resolved, That this association recommends still more emphatically and urgently to the public the general use of individual cups, particularly in schools, on railway trains, in stations, at public fountains and the like, as contributory to the better preservation of the public health, and the prevention of communicable diseases."

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EDITORIAL

THE ABUSE OF THE BICYCLE

AN unprejudiced observer who has practically tested the use of the bicycle as a health-giving agent, when used moderately, must confess its immense value. It is a most fascinating mode of exercise, and in that fascination resides the secret of its power for good. Toil when disliked never does the good to those needing toil that it can do when made attractive. In the bicycle we have one of the most attractive inducements to out-of-door exercise that has ever been devised. The statistics of our boards of health already show most favorable results from its use. With it, as with everything else, it is bad by misuse in about the same proportion as it is good by proper use. It is as potent for evil by misdirection as it is for good when properly used. Because of this, enemies have arisen against it, who seek to discourage its use. As well might they condemn the sharp instruments of the surgeon because they can be used to destroy life as readily as to save it. The most potent remedies of the materia medica are the most dangerous poisons. One might as reasonably decry these as denounce the bicycle because it can be misused.

New York City has just been the scene of one of the most barbarous exhibitions of brutal abuse of the bicycle that could be devised. A few more such scenes would be pretty apt to start a crusade against the use of the bicycle that would be anything but a blessing to humanity. One extreme begets another, and from the almost fetish adoration for the wheel, now indulged in by so many, we may yet swing to the opposite extreme of total condemnation. The masses are very fickle in the bestowal of their affections. Fashions come and fashions go, regardless of utility or possible benefit. Let the decent portion of the public recoil in disgust from exhibitions like that of the six days' race at Madison Square Garden and it would not be long before the seal of condemnation would be set upon the machine that can be made the instrument of such disgusting brutality.

Had the race been for the advancement of science, and the exhibition been made before a few scientific men and not the general public, there would have gone up such a cry of horror as would have caused the executors of the law to have done their best to punish everyone who had anything to do with it, from the instigators to the spectators. The Society for the Prevention of Cruelty to Animals would not have been idle a moment until they had stopped the affair and imprisoned the participants. The zoophilists would have lent their aid in seeing that the culprits were duly punished, and for a long time we should have heard them say:

"Did we not tell you so? Does not animal vivisection logically lead to human vivisection?" These zoophilists and their sympathetic friends dare not face truly brutal crowds and stop such proceedings when conducted as a public show for money, at the rate of fifty cents and a dollar a head. The physiologists and bacteriologists are few in numbers and relatively weak compared with the mad crowd of "sportsmen." If ever anything could show the true animus of these pretended humanitarian antivivisectors, this does. Men and women, inspired by what they honestly believe to be a righteous cause will attack a giant as readily as a pigmy, but mere pretenders are always cowards and shrink from acts that may not add to their own comfort. Over the weak they can hold the rod and say "I am holier than thou," but when the strong appear they skulk and hide until they feel that they are safe. Instead of a lot of useless animals being the sufferers, here was a crowd of almost physically perfect young men. Instead of the object being the future amelioration of the conditions of existence for men and animals it was a mere matter of brutal sport and a few paltry dollars and cents. From beginning to end the whole affair was a disgrace to the community that permitted it, and a double disgrace to those who, while pretending to be their brothers' keepers, did not seek to bring it to a speedy end.

To say that the sufferers went into it voluntarily only aggravates the offence. Long before the race came to an end the riders were in a condition that made them irresponsible, and then, at least, it should have been stopped. Could a more pitiable picture of human suffering be drawn than that presented on the last two days of the race? They were not able to mount or dismount without help. They looked like old instead of young men. Their minds were filled with all sorts of queer hallucinations. They believed that the people who were watching them were throwing obstructions on the track before them. Some thought that sticks and stones were being thrown in their way to upset them, others believed that the track was being strewn with tacks to puncture their tires. One young man asked his trainer for a piece of paper. When asked what he wanted it for, he replied that he needed it to put where his eyes once were. He also believed that the women in the boxes were his friends and that they needed his assistance to beat back some ruffians who were annoying them. Twice he stopped his wheel to go to their assistance, and it was all his trainer could do to keep him in his place. Another thought that those around were trying to poison him and he would take no food unless cooked by his wife. A number of them quarreled with their trainers and rambled in their talk. One of them thought that his being stopped for a medical examination was a conspiracy to make him lose his place, and after the examination he had to be forced back, because he thought he was through with the race. The wrists, knees, and ankles of all were swollen and tender. Their trainers had to pound them with wet towels to keep them awake and keep them going, ammonia was squirted at them, ice-water was caused to trickle down their backs, and when from sheer exhaustion they tumbled off their wheels they were lifted on again and forced to proceed. When they asked for water—"only a drop of water"—it was refused them. They staggered like drunken men, unable to tell the distances between each other or the true relative directions they bore to each other. At the close of the race Miller, the winner, felt cold, although in a room heated to 80F., his tongue was tremulous, his lips and ears slightly cyanosed, his joints swollen and very tender, and his pulse varied in speed from 60 to 72 per minute, according to the published report of Dr. Wildman, who examined him. Instead of going soundly to sleep after so long a vigil he said after his first night in the hotel, "I thought I was still on the track. I could see the bright lights and the faces of the people, and they all seemed to be going round and round. Then the faces faded away as if they were being drawn off in the distance, and then I knew where I was." After his first meal and a bath, following the race, he said "Do you know that everything seems to stand still in the queerest way? Up at the Garden the people and the track and everything else seemed to be moving round and round. Now everything is so still it seems to weigh on my mind in some way, for when I look at anything I expect it to go round and round. I felt very queer, too, when I first came out of the Garden and was riding in the carriage. The lights in the Garden are away up and those in the street are low down. When I saw the outside everything seemed to be compressed and small, and I felt like as if the building were about to topple over. I wanted to put my arms out to protect myself."

What is in store for these racers? A coiled spring within its range of strength can stand a definite amount of strain before being permanently damaged. The human body is very much like a coiled spring in its power of recuperation. It sometimes rallies from exceedingly severe attacks of disease with but few marks of permanent injury. When the vital coil is overstrained it leaves the system a wreck. Every great strain weakens it. In all the cases where the constitution of the rider was powerful enough to resist the strain there will be a slight weakening of vigor, but in some there is sure to be overstrain, and they will go through life mere wrecks of their former selves. Some of them received nothing for their week's agony, a few received $75 to $500 in graded amounts, and the winner got $1,500. The few organizers of the show pocketed about $20,000 out of the $40,000 taken in at the door. The crowd paid its money freely to see and gloat over such an agonizing scene. They shouted like madmen at the poor suffering fools before them, and jeered at those whose hallucinations made them talk wildly as they rode along. "Give us less talk and better riding" was the answer of the sport-mad crowd to the delirious talk of the riders. A prize-fight, a Spanish bull-fight or a contest of gladiators in the arena of the Coliseum at Rome would be royal sport as compared with so gross a degradation of the most health-giving mode of exercise of the nineteenth century. It is to be hoped that this is the last exhibition of the kind that will ever occur in this or any other country.

A REMARKABLE MEDICO-LEGAL CASE

WHAT promises to be one of the most important and remarkable medico-legal cases of the century, because of the many complex and interesting questions involved, is now creating a good deal of stir in New York City. The difficulties inherent in the case are calculated to trouble the medical and chemical experts. The public mind was badly muddled by the Luetgert case and medical science seemed to suffer in the contest, yet that case did not offer nearly as many knotty problems to solve, nor did it contain as many features likely to lead the public to judge wrongly of medical men. The questions of public protection from murderers, the protecting value of boards of health and of coroners, the diagnostic ability of the average physician, the use and abuse of expert testimony, will all be practically under trial as well as Charles Zanoli, when his case comes before the court.

The facts as stated by the daily papers, if we can at all rely on what they say, are such that, merely on the strength of the doctrine of probabilities, it is hard to see how they can mean anything short of guilt, and yet it would be wrong to interpret them in this way until other facts the public may not possess are produced and their bearings seen. One story is said to be always good until the other is told. When we get that other it may materially alter our conception of the meaning of those we now have.

The story, up to date, is briefly as follows: Charles Zanoli, a German barber, of New York City, has within three years collected insurance-money from the death of seven persons. They all died suddenly, although in apparently good health shortly before. He administered their medicines with his own hands. Every death occurred on Saturday or Sunday (days that he could be at home from business to see them die), and he never called the same doctor to attend a second case. He never allowed a doctor to visit a patient during his absence if he could help it. On one occasion a doctor called upon his sick wife during his absence and was rebuked for doing so. When the patients were questioned to elicit facts on which to base a diagnosis, Zanoli and not the patient answered. In one instance he explained this conduct to the doctor by saying that the patient did not understand English, when in fact she did. The patients through fear or other cause, were usually dumb in the presence of the physician. In one or more instances he suggested a diagnosis to the medical men in attendance, which they accommodatingly accepted and put on the death-certificate. During the three years in which these deaths occurred he has gone by the names Zanoli, Schmidt, Braune, and Suhmer. Each of these frequent changes of name has been accompanied by a change of abode. Four of the seven who by death have contributed to his wealth were wives whom he married at intervals of a few months apart and soon after the deaths of their predecessors. Each marriage was consummated in the presence of a different minister, and he shifted his domicile as often or oftener than he changed his name. When captured by the police he was preparing for a fifth wife, and had told the janitor of his newly rented home that he was going to bring his wife along when next he returned, although he had not yet seen her. He had written to a Brooklyn widow who was seeking a place as housekeeper, and she was to call that day. This being his usual way of getting his wives, he calculated in advance upon the success of the plan. The three others who died were the mother of his first wife, his own child by the same wife, and an employee, who was passed off by Zanoli as himself, and at whose death Zanoli collected the amount of an insurance policy on his own life.

One of his apprentices, who also carried an insurance policy payable to him, left his service after a severe and sudden attack of sickness following the drinking of some coffee administered by Zanoli. A friend who undertook to conduct a real-estate transaction for him and who got his ill will thereby, was afterward treated by Zanoli to some beer that made him deathly sick. The man's wife then accused Zanoli of having poisoned her husband, but he denied it in tears. The reporters probably exaggerate his weeping capacity, but they say that he cries at every trifling occurrence that is calculated to ruffle him.

At present the greatest interest centers upon the cause of death in each of the seven cases. The fourth wife's body has been disinterred and parts of the internal organs are in the hands of a competent chemist for analysis. The pathologist has declared that the diagnosis of the attending physicians, as given in the death-certificate is wrong. They said she died of typhoid fever. Most of the other cases were certified to as having died of apoplexy. The first of the seven deaths occurred on October 17, 1894, and the last on August 9, 1897. The last body was buried four months ago, and the first has been in its grave three years and two months. How much reliable information can be expected to be obtained by examining these bodies at this late date? It appears that the last body was embalmed by the undertaker. Arsenic is a common constituent of embalming fluids. The undertaker says that no arsenic was used by him in the case of Mrs. Suhmer (Zanoli). Should Prof. Witthaus find arsenic in the body, the undertaker's word would have to be taken as final, unless Zanoli's lawyer should have another body disinterred and analyzed, which this same undertaker had embalmed. If alkaloids are found it will now be almost or altogether impossible to say whether they are not cadaveric ptomains, instead of such as Zanoli could buy of druggists.

There will for some time to come be a good deal of speculation regarding the kind or kinds of poison likely to have been used, if these deaths did not occur from what are known as natural causes. As the suspected man is a barber he would be likely to know the various constituents of depilatories, hair-tonics, and hair-dyes. In these nitrate of silver, jaborandi, oil of bitter almonds, lead salts, copper salts, cantharides, pyrogallic acid, corrosive sublimate, and barium and calcium sulphides are found, and these are all poisonous. Oxalic acid is so commonly used for cleaning copper that everybody knows it. Arsenic has been long known by the masses as a poison, and can be purchased easily as a rat-killer. Belladonna and its alkaloid were made familiar to the public by the Buchanan trial, that occurred just about the time that Zanoli, if guilty, would have been interested in such subjects. As a German barber he would doubtless be familiar with chloral hydrate, since barbers from Germany are said to be the ones responsible for its use in this country as "knock-out drops." These, with possibly the addition of cocaine, the name of which sounds like that of a preparation once known to barbers, constitute the sum of poisons likely to be known to Zanoli. If he is guilty, from these he probably made his selections.

A photograph found in his possession had on the back of it a prescription calling for atropine-drops. It was dated May 17, 1895, or less than a month before the death of his first wife. Those dying soon after this date had delirious symptoms, elevation of temperature, rapid pulse and very deep, almost stertorous, breathing. As in the case of Buchanan's wife, the symptoms resembled those of apoplexy, but it was proven that Buchanan's wife died of atropine-poisoning. The doctor who attended the first Mrs. Zanoli declares that she had one-sided paralysis. No known drug will produce that symptom. With symptoms resembling those of apoplexy it is within the range of possibilities that the doctor believed that he observed such paralysis. His mind having reached the conclusion that apoplexy was the most likely cause of death, the personal equation may have done the rest. If these deaths were caused by atropine, no chemist would now be able to prove it, as there are cadaveric alkaloids that are mydriatic and give the reactions of atropine. The behavior of his fourth wife the day before her death indicated that the so-called soothing draught he gave her was chloral. The head symptoms, the wandering unconscious in the street, and the appearance she presented to the neighbors, all look like chloral-poisoning. As she had some conversation with a neighbor about her symptoms she said that the medicine made her head feel queer, but not a word about the dryness of her throat. If atropine had been given to her at that time the neighbors would have been likely to have observed her enlarged pupils, and she would have told about the dryness of her throat. In the case of the child, Lottie, the discoloration of the body might be due to the administration of nitrate of silver.

Whatever the cause of death in all these cases, it is more than likely that no medical or chemical examination can, with any degree of certainty, reveal it. From the case of the fourth wife what little light is available will be found. At best, it is sure to be subject to challenge. But what of the diagnoses that have been made? One of those has already been contradicted. What, too, of the post-mortem of the coroner on the first of the seven cases? The public cannot appreciate the difficulties of diagnosis nor that when they misdirect the doctor by supplying false data he is like a pilot whose compass has been tampered with, so that it points in a wrong direction. It is possible that physicians believe too implicitly what the sick or the friends of the sick tell them. But what are they to do? They have no instruments capable of revealing or locating pain, telling accurately a family history or discovering what the patient has been doing. A New York daily has already made the following comments upon this phase of the subject:

> "The case has demonstrated the utter failure of our system of certifying the cause of death to accomplish anything in the prevention of crime.
>
> "In the complacency with which certificates of death from natural causes were issued the private physicians were quite as accommodating as the coroner.
>
> "This is more appalling than any of the revelations of the Guldensuppe case. The requirement of a medical certificate of the cause of death, intended as a protection for the safety and sanctity of human life, is, under these conditions, a screen and shield for murder."

AMONG THE EDITORS

THE FALL IN PROFESSIONAL POTENTIAL

We have been led to do some very serious thinking by noting that the current number of an influential medical weekly has three editorials which evince a slump—if we may use such a term—in the popular estimation of the medical profession. One of these editorials informs us that the medical officers of the U. S. Navy have given up, as hopeless, their fight for rank as wardroom officers, and will accept the inferior status now assigned to them; another informs us that the supreme court of a Western State has decided that a doctor can be compelled to testify as an expert without any compensation other than that of an ordinary witness (about $1 per day and mileage—if you get it); and the third records a complaint made by a veterinary journal that the medical experts in the Luetgert trial were not competent witnesses as to the nature of the bones found in the vat. We are informed, in passing, that mere "human anatomists" are not qualified to pass judgment on points of comparative anatomy, and if we understand the term "human anatomists" to mean those who have studied anatomy only, the criticism is probably just.—*Philadelphia Polyclinic.*

THERAPEUTIC SKEPTICISM

To the ignoring of the judicious use of medicine and in lieu thereof recommending travel, massage, hydrotherapy, the rest-cure, dietetics, gymnastics, mechano-therapy, oxygen-inhalations, etc., is due much of the ill repute into which medicine and many practitioners fall with the people and the transference of their clientele to the osteopathists, orificialists, faith-cures, springs, and health-resorts. Too many confiding, but troublesome, neuropaths are sent adrift in this way, without adequate and suitable treatment, to the final despair of the patient and the discredit of the medical adviser, whereas, the judicious employment of medicine should never be discountenanced by the good physician. There is always some medicine of service to every patient, not always for radical cure, not always for direct physical amelioration of grave disease, but always capable of exciting salutary neural or psycho-neural influence. Change may be absolutely essential to a patient's welfare, but medical preparation for that change and proper medication while getting the benefit of change of air and environment, should not be ignored by the home medical adviser. The absolute abandonment of patients to the chance benefits of travel, without the constant aid of suitable medication, casts the patient adrift, as it were, and takes the prop on which he has been accustomed to lean, and hurts both patient and physician. Such psycho-therapy impairs hope and faith.

A thousand influences may work for the weal of your patient while he is away. Do not help then to detract from the real merits of medicine by the admonition to take no drugs; say rather, take this prescription while away; it will aid you. Take judicious medical counsel in certain contingencies, and name if you can the kind of medical adviser you think might be of most service to the patient while he travels or while he rests at some natural health-restorer. But do not send him adrift with a stab at the resources of your exalted and most serviceable art.—*Alienist and Neurologist.*

SHOULD THOSE WHO ARE DISEASED MARRY?

"Should those who are diseased marry?" is a question often asked and discussed. It is impossible to treat the human race as we do our beasts; we kill diseased cattle; entire herds of valuable Jerseys have been destroyed because they were found to be tuberculous.

It would be equivalent to war if such method were adopted in an attempt to stamp out tuberculosis in the human race. Yet we must realize that efforts stronger and more logical than have been and are now being used must eventually be employed for this purpose. Either laws must be passed prohibiting intermarriage between healthy and diseased persons, or compelling the isolation of all who are diseased, irrespective of class, condition, and sex.

This editorial was not written to discuss the best methods of obliterating tuberculosis, but to impress upon the profession the necessity of pointing out dangers which their patients cannot discover. Those who inherit tubercular tendencies should be carefully schooled in habits which will best enable them to guard against the disease; many who are to-day beyond the hope of recovery would still be on the safer side had they been warned in time. Change of climate, quitting the more dangerous regions for localities more favorable to their condition, has by itself saved many who, had they remained in their former environments, would have died.

Intermarriage between healthy and tubercular persons should never be sanctioned. The family physician can warn parents of the dangers of such unions without offending or appearing officious.—*Louisville Med. Jour.*

A NATIONAL BOARD OF HEALTH

Occasionally it requires a fire to make the average person know the advantage of insurance, and so it was in the State of Pennsylvania. It required the terrible epidemic of typhoid fever at Plymouth to make the Legislature see the great need of a State Board of Health. Now the present epidemic of yellow fever throughout the South and Southwest would seem an excellent warning to the United States Government to learn the advantage of a National Department, having in charge the entire matter of health in the Union. How to preserve it, how to keep out the invasion of diseases from abroad, and when once such had made its appearance, how to keep it within bounds, and prevent its extension to the entire country. Under the fear of yellow fever we see each little community in the South and Southwest engaged in the effort to save itself by shotgun quarantine, and a host of unnecessary practices, many as inhuman as useless, all which should be in the hands of one central strong department, with power to enforce its decrees, and money to pay its employés. We are led to these reflections by the daily newspaper details of the continued prevalence and spread of this much-dreaded disease, and the contemplation of the daily bulletin from the South to our State Board of Health. So many new cases, so many deaths; all telling with fearful emphasis the story of disease and death, the destruction of happy homes, the sundering of family ties, the increase of orphans and widows, the result of the want of a government power to attend to it all, and make such destruction a thing of the past.

With a National Department of Health, properly empowered, this whole matter would have been regulated at once. Quarantine everywhere would have been enforced in the only right way, early cases recognized at once, and the efforts to stamp out the disease be successful without waiting for the advent of frost to do it.

As we go to press the terrible affair sums up 804 cases to date, 88 deaths to date, and still waiting for the killing effects of frost to put an end to the disease.—*Public Health.*

"CHRISTIAN SCIENCE" AND SCIENCE

It seems as if every age must have its fad, and perhaps we should not disquiet ourselves too much about it. Long ago the question was asked why the heathen raged and the people imagined a vain thing. The question, especially the latter part of it, is equally pertinent to-day; and the answer we venture to suggest is, because they like it. It is very sweet to the unregenerate mind to be able, or seem to be able, to fly in the face of facts. Just as there are persons so constituted morally that they are unable to conceive of liberty, except as defiance of law, and who, therefore, when they want to feel particularly free, resort to disorderly conduct of one kind or another, so there are those—in much greater number—to whom natural law seems an intellectual tyranny from which any escape is welcome. This we take to be the philosophy of so-called "Christian science," a delusion which to-day is playing havoc with the intellects of thousands of presumably sane and well-meaning persons.

The great beauty and merit of Christian science in the eyes of its devotees is that it affirms the thing that is not and denies the thing that is. It has to make grudging concessions to the law of gravitation and a few ordinary primary conditions of existence. In a kind of a way it admits that certain injuries to the bodily frame may impair activity and even destroy life. That a man cannot walk without legs or do much useful thinking without his head are propositions which it has not yet seen its way to combat; but it takes its revenge on the system of visible things by comprehensive denials in a host of matters only a little less indisputable. It scornfully refuses to recognize pain or functional irregularities of any kind. Fevers, indigestions, inflammations, and the whole tribe of maladies which challenge the physician's art have no foundation in reality, and only need to be suitably ignored in order to be put to flight. If Job of old could only have planted himself at the Christian-science point of view, he could have got rid of his boils in short order, and perhaps saved himself from the interminable and not overcheerful discourses of his friends. The great remedy, as recommended to-day in Christian-science circles, is not to think about these things at all, and in case you cannot *think* hard enough, to send for a Christian-science adept to help you. The adept will then, with cheerful and enthusiastic mendacity, inform you that you haven't any pain, that you haven't any boils, that you haven't any rheumatism or sciatica, or whatever it may be; and if you should point ruefully to the affected part, will exclaim: "Why, that isn't you; that's a mere mass of matter—and you are a soul, a spirit. You ought to rule your matter and not let your matter rule you." This is a point in the proceedings at which the faith of the sufferer is sometimes severely tried. Cases have been known in which, breaking into language neither wholly Christian nor rigorously scientific, the patient has demanded to know why, if that wasn't him—even grammar may be sacrificed in these emergencies—he *should* be enduring such abominable tortures on account of it; and up to date the *satisfactory* answer of Christian science to that particular question has not been formulated.—*Popular Science Monthly.*

CURRENT TOPICS

THE INFLUENCE OF DRUG-IMPRESSIONS—A STUDY IN MEDICAL EMPIRICISM

Elmer Lee (*Virg. Med. Semi-Month.*, Aug. 13) refers to the fact that at the recent meeting of the American Medical Association, there were more than 600 papers on the programme, representing the most positive proof of the empiricism of medicine. The mere presentation of such a list of essays at an annual meeting of one medical association means that medicine is as far from a science to-day as it ever has been in its modern history. Read them and decide for yourself if your experience in practical therapeutics needs any reminders of the hopeless confusion that reigns since the advent of excessive commercialism in pharmacy, and the birth of a new coal-tar derivative or serum-cure for each new day of the year. The demand for advertising has become so important as a factor of journalism that quack nostrums are now admitted to the advertising pages of the medical journals. It would seem but natural that ere long, through concerted action by an army of trained physicians, such perfection in the treatment of the sick could be obtained as would satisfy the public as well as justify the profession in their claim to the title of physician. The reforms in treatment, so long as dependence is placed upon a belief in drugs to arrest and change pathologic conditions into normal health, will be slow, insecure, and disappointing. The failures to cure are strangely ascribed to the selection of the wrong drug or the improper dose, or some other incidental matter pertaining thereto which serves to defeat our expectations. The influence of drug-impressions upon the mind, from childhood to old age, interferes with fearless and original investigations in other directions of treatment, more simple and truer to nature. It seems to be as difficult to free the mind from the ancient, medieval, and modern beliefs, relative to the popular custom of trying to cure disease by the administration of drug substances, as it is to escape the doctrines of theology. There is widespread belief that it is necessary to change the aspect of symptoms of disease by substituting a drug symptom, regardless of the vitality or general effect upon the patient. It is also the experience of the author that, in order to comply with the preconceived opinions of the sick and their friends, drugs in some form are required, not that they exert a curative influence from a pathologic standpoint, but that they appease the patient and satisfy the expectations of the friends. Use is often made of some favorite placebo, the beneficial effect of which is enhanced by a wise look and explicit directions. The day is far away when the profession will be able to drop the mystic influence of potions and powders, draughts and placebos, in general or special practice. A few chemicals have a proper place in the exigencies of the moment, but beyond this limited employment there is no physiologic justification for the introduction of drugs or serums in the human organism. L.

MAN AND MEDICINE

The above is the title of an inaugural address delivered at the opening of the Session of the York Medical Society on Oct. 13, 1897 (*The Lancet*, Oct. 30, 1897), by J. F. Goodhart, M. D., F. R. C. P. After considering the subject in a general way, the author made the following timely and pithy remarks:

Owing to the importance attached by the public to the names used by medical men the latter must be careful in the use of their words. This is for the reason that the older one grows the less communicative a man becomes. For instance, it is not at all uncommon for things to fall out thus: You go and see a case of pleurisy, thus rightly called bv the medical man of first instance; and in discussing the matter with the friends you in natural course talk of inflammation. Quite speedily the scene changes. They exclaim at once, "Oh, he has got inflammation, has he? Doctor A. never told us that." To have got the inflammation is to be all right or all wrong, as the case may be. The term either satisfies or alarms. On the one hand, it is one of the diseases that the layman recognizes, and therefore he knows where he is, and he proceeds to subdue it by turpentine, mustard poultices, various embrocations, etc. There is no obscurity about "inflammation"—anybody can treat it—and in this light it is a term of satisfaction. On the other hand, with some inflammation is a word of terror, a thing which, if you do not quickly get the upper hand of, will quickly have the upper hand of you.

Any excessive caution, as it seems, on the part of the medical man is often keenly resented by the patient. Say, for instance, that a young woman consults a physician for acute indigestion. She has suffered years before from hemorrhage from a gastric ulcer. She was then treated quite properly by a man who knew his business by rest in bed and a somewhat long attendance, and now, fearing a repetition of this, she consults the author, hoping to avoid it. She is quite angry at being sent back again, after all, to bed and her old friend, and thinks it all nonsense, if not worse, a job.

Another point that the average layman does not seem to be able to grasp in the least is that all our organs are interdependent upon the integrity of the whole. It is impossible that he can do so when the rage for specialists is so severe. A man treats his component parts as separate entities, and physics this one or that according as it shows signs of what he considers as defect. But the curious part of it all is that although he is very ready to believe all manner of ills of his liver, his heart, or kidney, or what not, he never seems to think any evil of his brain. The only brain-disease the public knows is insanity. But as to the brain having any connection with, much less control of, say, the stomach or the liver or any other part, they have no conception. The public thinks that medical men know that there is a remedy for every disease, aye, every symptom, if only the medical man be clever enough to find it. So if they do not get well "in these visits" they go to someone else.

People will swallow any quantity of nasty medicine, but go to bed, oh, no! that is weakening. They will swallow any number of pills to keep their livers up to mark, but to stop their whisky or their daily port, oh, no! they know much more than the doctor about that, and, indeed, "Dr. So-and-So said years ago that I wanted keeping up." On the other hand, there is a class of people who will take advice, but who run to the other extreme. Here also is a too exaggerated opinion of the physician's knowledge.

Patients and medical men look upon their mutual relationship from different points of view. The layman in this instance takes a business view of his association with his adviser. He considers that the payment of the bill is the just equivalent, the *quid pro quo* that settles all claims—indeed, he has been known to think that the *quid* was more than the *quo*, and to grumble thereat—and that he can henceforth try, if he be so minded, the latest fashion—the young man who has just come to town, and who is "so clever." No medical man could be such and conduct his business on purely business principles. Not a case comes before one probably but that much more is done for it than ever the patient supposes. He supposes that he comes for an opinion and he gets it, and that that is the whole of the transaction. If that were all one had to do medicine would be much simpler, perhaps, but it would be much less enthralling. But before forming an opinion you probably have to throw yourself into the position in life of the patient as far as possible, to realize yourself his hopes and his fears, his troubles here and his ties there, and numberless other things. And when you have come to an opinion there is then again the necessity of entering into the man's feelings and shaping your words in accordance therewith. Thus at the end of any investigation the large number of items in the bill cannot possibly be discharged by any equivalent in gold. You have been obliged, even though willingly, to become the friend and confidant of a family, and friendship and sympathy cannot be bought or sold.

It would be much better for both parties concerned, and much more helpful to the art of healing, if medical man and patient could meet upon some common ground, and if the layman were able to follow the trains of thought that we may wish in some measure to make him understand, to realize in some small measure the great responsibility that medical men have to undertake.

B.

DOES SUICIDE CARRY OFF THE UNFIT?

In a paper read before the Missouri State Medical Association (*Alienist and Neurologist*, Oct. 1897) Dr. C. H. Hughes considers that all men who commit suicide ought, and more ought to that do not, for the good of the race.

A selfish man, living as though all the world was made for his sport or gust, giving free course to every impulse of lust and passion, bringing the natural satiety, disgust, disappointment, and disease on himself of unregulated indulgence, who destroys himself because he has made himself miserable and unfit to live, is a benefactor to his race in taking sudden leave of the world, and the world should "speed the parting guest." The act, though selfish and thus unmanly, is also unintentionally philanthropic to his race, because he thus insures the cutting short of his kind, so far as he is concerned in the community.

If the breeding of the unfit to live could be stopped by more frequent suicides of the morally and physically unstable and viciously endowed—the millennium of earthly happiness would begin. As it is, and has been, the suicides, though they have given much sorrow in special instances, have, as a rule, done the world far more good than harm by taking themselves away, their departure averting the compounding of the world's misery through the multiplication of such miserable beings, unable, unfit, or unwilling to lift and carry their share of life's burdens, or do a proper and manly or womanly part in the world's work and duty. B.

SELECTED PAPER

POINTS CONNECTED WITH THE PATHOLOGY AND TREATMENT OF DIABETES*

By F. W. PAVY, M.D., Lond., LL.D., F.R.S.,
Consulting Physician to Guy's Hospital

MR. PRESIDENT, COLLEAGUES, AND GENTLEMEN—I appear before you to-day to draw your attention to points connected with the pathology and treatment of diabetes. They constitute the outcome of the study which formed the basis of the Croonian Lectures delivered by me in 1894 and of the study I have since conducted. Disease is a deviation from health, and for its proper comprehension we require to have a knowledge of the conditions belonging to health. It is just this in the case of diabetes that it has been difficult to obtain, and the complaint has stood as one of the most inscrutable of diseases. The question first presented for solution is, How does carbohydrate normally decome disposed of in the system? Next follows the question, What is it that gives rise to its unnatural escape with the urine?

Briefly stated, diabetes may be said to consist of a malapplication of the carbohydrate principles of food. Common observation teaches us that when the various forms of carbohydrate matter are taken by a healthy person with the food, they become lost sight of and contribute to the benefit of the system. The system has the power of placing them in a position to be susceptible of utilization, and they thus disappear from view with resultant good. In the case of the diabetic, however, the carbohydrate matter that is ingested fails to undergo proper application, and passes, instead, as sugar through the system to the urine, with which it is discharged as waste material. This is the plain statement of fact regarding the difference between health and diabetes, and what is wanted is a right understanding of the details concerned.

It has been hitherto assumed, without any positive evidence as a basis, that the carbohydrates undergo oxidation in a direct manner in the system. Liebig placed them in his group of calorifacient food-principles. In his time physiology and chemistry were not sufficiently advanced to permit of carbohydrate matter being followed after being taken as food so as to obtain information of the phenomena occurring. The first step in this direction was the renowned work of Bernard. Bernard, accepting the view that the carbodydrates are destined for the purpose of oxidation within the system, enunciated the doctrine that the liver is endowed with a glycogenic function which provides a supply of sugar to be conveyed to the tissues for oxidation when carbohydrate matter is lacking in the food. I need not give attention here to the faulty groundwork upon which the glycogenic doctrine was raised. This matter has in times past been amply dealt with. Notwithstanding, however, that it is recognized that the experimental groundwork is fallacious, the doctrine has become so firmly implanted in the mind as to render effacement difficult. Apart from other considerations, what it implies affords its condemnation. In order that sugar may reach the tissues for oxidation, it must enter the general circulation. Now it happens that the stream of blood alleged to convey sugar to the tissues for destruction in part goes to the kidney. It was formerly taught that the capacity existed of tolerating a certain amount of sugar in the blood without its passing off with the urine, and this tolerating capacity was asserted to have been found in the dog to stand good for a proportion of 2.50 per 1000; in other words, when sugar amounted to 2.50 per 1000 in the blood, sugar escaped with the urine, but not when a less proportion existed.

At that time neither for blood nor for urine were the analytical methods for the recognition and determination of sugar in the satisfactory position in which they stand now. Modern physiologists are agreed that the amount of sugar normally present in blood is about, or a little under, 1 per 1000; and in association with this it can be definitely stated that sugar passes into the urine.

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*Supplementary Croonian Lecture delivered before the Royal College of Physicians of London, on November 13 1897.

It can also be definitely stated that in association with 2.5 per 1000 of sugar in the blood such an amount passes into the urine as to give it a pronounced saccharine character. The question of the presence of sugar in normal urine long stood, or was considered to stand, as a debatable point. The discussion on the subject that took place in the pages of *The Lancet* a few years back, in which I took part, will probably be remembered. The method formerly adopted for separating the sugar from the urine and obtaining it in sufficient quantity for its satisfactory identification was by precipitation with lead acetate and ammonia. Operating upon the product yielded by this process, I obtained information which left no doubt in my own mind that sugar constitutes an ingredient of healthy urine. More recently Baisch and others have operated with benzoylchloride. By this reagent sugar may be precipitated and can afterwards be recovered in a pure form. From the evidence that has been obtained the matter may be considered to have been thoroughly set at rest. Not only, indeed, can it be said that sugar has been found, but likewise that its nature has been defined.

The point to which we are led is that no tolerating capacity exists against elimination by the kidney of sugar present in the blood. As it is present so it escapes, and the urine thus becomes a delicate indicator of the condition of the blood. By experiment it can be shown that sugar introduced into the circulation is at once revealed by the urine. I have found that even as small a quantity as a quarter of a gramme per kilo, body-weight—that is, a four-thousandth of the weight of the animal—intravenously injected has given evidence of influence upon the urine. Where larger quantities are used a more or less pronounced elimination occurs, and the blood even an hour afterwards has not regained its normal constitution, but still retains a surplus of sugar. This tells against the assumed destruction in the systemic capillaries being the natural mode of application of sugar in the animal economy. It is sufficiently evident that the kidneys constitute the channel through which the sugar permitted to reach the circulation in diabetes is discharged from the system. The action of the kidney in relation to sugar is not different in health from that in diabetes. The only difference is one of degree determined by the difference in the amount of sugar existing in the blood. It is not surprising that in former times healthy urine was regarded as being free from sugar. The quantity is too minute for the chemical methods then at command to reveal. With the improved methods of the present day, the sugar which is present in healthy urine, and is derived from the small amount naturally existing in the blood, is readily susceptible of demonstration.

From the considerations that I have mentioned it is permissible to look to the urine for the supply of knowledge regarding the entry of sugar into the blood of the general circulation, and to reason as follows in relation to the glycogenic doctrine. Under natural circumstances the blood contains a certain small amount of sugar which may be considered as constitutionally belonging to it, just as is noticeable with the other constituents of the body. Physiologists are agreed that the amount of sugar in the blood is not altered by the amount of carbohydrate ingested. Within ordinary limits, both the blood and the urine remain uninfluenced by the character of the food with respect to carbohydrate. It matters not whether the comparatively insignificant amount of carbohydrate existing in an animal diet or the large amount contained in many articles of food from the vegetable kingdom be ingested, the result is the same. But could this be the case if the ingested carbohydrate had to be conveyed as sugar through the general circulation to the systemic capillaries to be there disposed of? It would mean that, notwithstanding the demonstrable fact that whilst the introduction of an exceedingly small amount of sugar into the circulation gets revealed by the urine, a surpassingly large amount can reach it from the food without evidence being afforded of its doing so. The circumstances are such that whatever presumably passes to the tissues for destruction would equally pass to the kidney for elimination. If the kidneys were placed on the other side of the systemic capillaries there might be destruction without elimination. But it is the same stream that goes to the systemic and to the renal capillaries, and for the teaching to hold good it would have to be assumed that destruction could proceed and elimination remain in abeyance. By the ingested carbohydrates being temporarily stopped by the liver and stored as glycogen, the difficulty is not removed. Within a given time the transit would have to be made, and the amount transported under a free carbohydrate diet would be infinitely greater than could be derived in any way from animal food, and yet it escapes, being revealed by the urine.

What the quantity is that would have to pass may be judged by the difference in the amount of sugar eliminated by the diabetic patient partaking freely of carbohydrate materials on the one hand, and upon animal food only on the other. Everyone knows the immense difference existing, but I may mention in illustration the figures drawn from a case in which many years ago I specially studied the effect of different kinds of food on the elimination of sugar. The sugar voided during a twenty-four hours' period on a diet exclusively of animal food stood at 37 grammes, while for a similar period, with a diet containing a plentiful supply of carbohydrate material, it reached 685 grammes. This gives an idea of the amount of sugar that would have to traverse the circulation if the carbohydrate matter of our food had to be conveyed as sugar to the tissues for destruction. And yet, in the healthy state, the urine escapes without any effect being produced upon it.

If in reality the functional transit did take place, it could not fail to be rendered conspicuously evident by the urine. The transit, indeed, is just what belongs to diabetes, and I submit that this consideration is fatal to the glycogenic doctrine. For freedom from diabetes, carbohydrate matter must be prevented reaching the general circulation as sugar, instead of being thrown into it as such for conveyance to the tissues for destruction.

And now the problem that presents itself for our consideration is: In what way does the carbohydrate matter of our food become disposed of so as to be prevented reaching the general circulation as sugar? Any explanatory proposition that is offered must necessarily locate the seat of the disposal as standing between the alimentary canal and the point where the portal blood-stream obtains entrance into the general circulation. If it were located beyond this point, unless the capacity existed, which may be confidently said not to be the case, for effecting an instant removal of sugar directly the general circulation is reached, the conditions would be supplied for the urine to be influenced as it is found to be in the diabetic state.

What I have to say with reference to the mode of application of carbohydrate matter within our system fits in with what is observed to occur throughout living nature. The operations of animal and vegetable life are brought into harmony with each other. In one of the simplest of organisms—namely, the yeast-cell, a demonstration is afforded of the occurrence of the operations which I submit lead to the carbohydrate matter of our food being disposed of in our system without the opportunity being given of its reaching the general circulation as sugar, and thence escaping as waste material with the urine. It is only gradually, and as the result of lifelong attention devoted to the subject, in association with unceasing laboratory work, that the knowledge has been acquired upon which the new doctrine is based. Much help has been afforded by the teachings of experience in connection with diabetes; and while these are absolutely irreconcilable with the old doctrine upon which physiologists have been relying, they, in the most complete manner, fall in with and give support to the new one. The subject is fully considered in my work on "The Physiology of the Carbohydrates," published in 1894; and it will only be requisite here to enter into sufficient detail for the comprehension of what is being spoken of.

The carbohydrates, as we know, are susceptible of being transmuted from one to the other by increased and decreased hydration. Ferments and chemical agents move them in the former direction, and the operation is one that we have the power of inducing at will. Transformation in the latter takes place to an unbounded extent in the living world, but if we exclude a few special instances of laboratory achievement, we have not the power ourselves of bringing it about. The first influence exerted on ingested carbohydrate is by the ferments of the alimentary canal, which hydrolyze and carry the insoluble into a soluble form and thus prepare for absorption. On being absorbed the carbohydrate is brought within the sphere of influence of living matter. In the villi, which constitute the seat of absorption, there are active cells with which the absorbed carbohydrate falls into close relation, and subsequently it permeates the cellular structure of the liver, which thus, as it were, stands in a position to exert a supplementary action, and to complete before the general circulation is reached, whatever may have escaped completion in the villi.

Now, by the agency of protoplasmic action, or the power possessed by living matter, carbohydrate is (1) transmuted to a lower form of hydration; (2) transformed into fat; and (3) synthesized into proteid. All these operations can be definitely shown to take place in the simple cell-organism of yeast as the result of the power with which its protoplasm is endowed, and the power here represented is nothing more than the common property possessed by protoplasm in genera. of both kingdoms of nature. While ferment-action hydrates and breaks down, protoplasmic action dehydrates and builds up; and it is by the influence of this latter power, I contend, that carbohydrate naturally becomes disposed of in the system, instead of by ferment-action leading to the production of sugar that is fictitiously assumed to undergo oxidation while traversing the systemic capillaries.

Between the seat of absorption and a point short of the general circulation being reached by the portal stream of blood, I say, we have to look for the disposal of the carbohydrate derived from our food, and it is by the exercise of protoplasmic power that what occurs is brought about. Ferment-action has performed its office within the alimentary canal in putting the carbohydrate matter, if it should be in a form to require it, into a fit state for absorption. If the disposal is completely accomplished, no sugar is left to reach the general circulation, and if none reaches the general circulation there is none to reach the urine. This represents the natural order of things. If, on the other hand, the disposal of carbohydrate by the exercise of protoplasmic power should not be properly effected, if, in other words, the circumstances should be such as to lead to the faulty accomplishment of protoplasmic action; or if, even with a natural state existing as far as the system is concerned, it should happen that the function is unduly taxed by the ingestion of an exceptionally large amount of carbohydrate in a readily absorbable form, especially at a period of fasting, sugar will be permitted to reach the general circulation, and in proportion as this occurs sugar will be found in the urine.

The process of transmutation into the lower state of hydration is exemplified by the production of glycogen in the liver. Carbohydrate which escapes being transformed into fat or synthesized into proteid passes on to the liver, and here, according to the evidence presented, it may be looked upon as undergoing in the first instance the change of state referred to. It is well known to physiologists that the liver becomes charged with glycogen in proportion to the largeness of supply of carbohydrate with the food. Possessing the colloidal property that belongs to it, it forms a serviceable storage-material, which, placed in the position it is, is favorably situated for being gradually utilized by transformation into fat, and possibly synthesis into proteid. That it should be destined to come back into sugar to be discharged into the general circulation and conveyed as such to the tissues for oxidation is incompatible with the condition in which healthy urine is found.

It was a subject of dispute in former times whether animals possessed the power of forming fat from carbohydrate. The matter is not now open to question. The power, indeed, is largely turned to account by those engaged in husbandry for the fattening of animals for the table. In the practice of our own profession if we want to reduce obesity we advise the restriction of carbohydrate articles of food, and conversely we recommend that they should be freely taken if we wish to fatten. For many years the state of the lacteals of the rabbit after a meal of oats has been fixed on my mind. Formerly it stood unintelligibly before me, but now I think the meaning is to be read off. It is common knowledge that after fatty food the lacteals, of the dog, for instance, are to be found conspicuously injected with milky chyle. In the rabbit, when in a vigorous but not when in a poor or sickly state, fed on oats and taken at the proper time afterward, I have seen the lacteals about as fully injected with milky chyle as in the dog after fatty food. Oats in their dry state contain about 5 per cent. of fat, which I am convinced upon full consideration of the matter is altogether inadequate to account for what is observed. The extent to which the villi under the circumstances are charged with fat-globules I have represented by photo-engravings from microphotographs in my work on "The Physiology of the Carbohydrates." It is admitted that animals are fat-producers from carbohydrate, and with its production in the villi it reaches the system and subsequently passes on in precisely the same way as fat derived from without. In the one case we have to deal with fat emanating from a ready-formed supply, and in the other with fat formed by the protoplasmic agency of the cells of the villi, for it is not for a moment contended that what occurs is of the nature of a mere chemical transformation. As carbohydrate may happen to be here applied to fat-production, so have we a provision in the direction wanted for preventing its reaching the general circulation as sugar. There are grounds also for believing that a further formation of fat is effected by the protoplasmic agency of the cells of the liver.

That carbohydrate can be turned to account in contributing to proteid-production is demonstrated by the growth of the yeast-cell in a medium containing no other source than sugar for the carbon constituent of its protoplasm. Further, carbo-hydrate is susceptible of being cleaved off from the proteid molecule. The proteids entering into our constitution do not enter the system in a ready-formed state. The proteid matter of food is as a first step towards its application to the purposes of life broken up by the ferment-agency of digestion. The absorbed products of digestion then fall into relation with the living protoplasm of the cells of the villi. Peptone, which is recognizable previous to the occurrence of absorption, now becomes lost sight of, and in view of all the circumstances existing it may be taken as reasonably permissible to conclude that through the instrumentality of protoplasmic action an extensive building up of proteid goes on in the villi.

By synthesis into proteid carbohydrate matter is placed in a position to be susceptible of transport through the system without running off with the urine. At the same time it is evident that its liberation from the locked-up state into a free form can be most easily effected in the presence of suitable conditions. The lactose of milk cannot, reconcilably with our collateral knowledge, be conveyed as such to the mammary gland, but must constitute a cleavage-product resulting from the effect of—may it not be said—ferment-agency existing within. In the grave form of human diabetes, as well as in the experimentally induced phloridzin and pancreatic diabetes, sugar is drawn from a source other than the food, and the large quantity that can be eliminated testifies to the abundant store of locked-up carbohydrate that must exist ready to be set free when the requisite agent for effecting the purpose is present, just as the sugar in amygdalin is set free in the presence of emulsion.

What has been said of the villi gives them the assimilation of food; a process that may be naturally looked for to immediately follow absorption. At a period of fasting, the amount of sugar in the portal blood practically stands in accord with that in the blood of the general circulation. After the copious ingestion of carbohydrate food, the amount of sugar in the portal blood rises, and I have known it reach as high as between 4 and 5 per 1,000. The circumstances are such as to lead to sugar being absorbed in too large a quantity to be fully assimilated or disposed of in the villi, and the portion that has failed to be assimilated reaches the portal blood and gives to it a fluctuating condition dependent upon the food. If there were no further provision existing for the purpose of assimilating this sugar and checking its passage into the general circulation, we should be thrown into a more or less pronounced glycosuric state after every meal, in precisely the same way as, in fact, occurs with the subject of alimentary diabetes. The liver, however, intervenes between the portal vein and the general circulation, and here a supplementary action is performed, which, if complete in checking the flow of sugar onwards, protects the contents of the general circulation, and hence the urine, from being influenced in relation to sugar by the food ingested. If the supplementary action is incomplete, the blood and urine become influenced, and in proportion to the incompleteness so is the extent of glycosuria. The entry of sugar into the general circulation constitutes the unnatural and not the natural occurrence. In order that we may be kept free from glycosuria, sugar must be kept out of and not thrown into the general circulation.

Whatever may be the means by which it is effected, it may be regarded as certain that to keep the sugar proceeding from the food out of the urine it must be kept out of the general circulation. The power by which this is accomplished falls within what we understand to be meant by the term "assimilative power," and it is through this power being at fault that in diabetes sugar gets into the urine from the food. In proportion as the power in question is diminished so is there a diminution in the amount of carbohydrate that can be taken without influencing the urine.

The position of things may be exemplified by a vertical column, representative of the power under consideration, with the maximum degree of power, or that belonging to health, standing at the top and successive stages of decrease, corresponding with what may be found to exist in different cases of diabetes, following on below until we arrive at the bottom where the power is *nil*. The maximum power is such as to be sufficient for providing for the disposal of the carbohydrate that is taken within ordinary limits; and thus it happens that under these circumstances no influence is exerted upon the urine. If carbohydrate, however, should be taken to an undue extent, and especially if introduced into the stomach in a soluble form and at a period of fasting, the tax upon the assimilative power surpasses the capacity to meet it, and as a result, notwithstanding we are in the presence of a healthy system, a portion escapes being disposed of, and is permitted to reach the general circulation as sugar, and in this state to find its way into the urine. This may be looked upon as the explanation of the saccharine urine, which it is known can be induced in both man and the lower animals by excessive ingestion of carbohydrate.

With rather less assimilative power existing than is normal, a given amount of carbohydrate that can be taken by a healthy person without producing any noticeable effect gives rise to glycosuria. Cases of this nature are not infrequently met with in practice, and prove perplexing to the medical man and to the patient. By one practitioner the patient is told that there is sugar in his urine, and for awhile he may be inspired with gloomy forebodings. He possibly later on seeks the opinion of another practitioner, who pronounces his urine to be perfectly right, and by this he is consoled till it arrives that he is afterwards told again that there is sugar in it. This apparently puzzling state is entirely due to the amount of carbohydrate that may happen to have been ingested just previous to the urine being examined. When in excess of a certain limit, sugar is voided; when, on the other hand, below it, no sugar is found, the assimilative work to be performed being within the capacity existing for performing it. Like to what has been said with regard to the healthy person, saccharine and non-saccharine urine follow in response to the particular amount of carbohydrate ingested. The only difference between the two cases is that an amount of carbohydrate that suffices to lead to the production of saccharine urine in the glycosuric does not suffice for doing so in the healthy person. It is to be remarked that the effect is noticeable within two or three hours after the food has been taken. Before the meal there may be no sugar in the water, and a short time afterwards a more or less notable amount may be discoverable. These are the cases that are frequently referred to as cases of intermittent diabetes; the intermittent character noticeable is due to variations that may happen to occur in connection with the food.

So it runs on. Different grades of power are met with in different cases, and it is found that an amount of carbohydrate that one glycosuric may be able to take without its leading to the passage of sugar suffices to determine its escape in another. The person has his fixed limit of power, just as we, as healthy subjects, have, but the limit of power stands lower, and is of varying degree in different cases. In each instance, as long as the carbohydrate taken is within the capacity existing of assimilating or properly disposing of it the urine remains uninfluenced; whilst, when the capacity has been exceeded, sugar becomes discoverable, the quantity standing in relation to the extent to which the capacity has been surpassed.

A case at a given time may be advancing in the direction of loss or in the direction of gain of power; but, taken at other times, the steadiness that is noticeable from day to day, week to week, month to month, or even year to year is most striking. The patient has his fixed point of assimilative power. In addition to the restricted diet for the diabetic, he may be able to take a certain weighed quantity of ordinary wheaten bread without sugar appearing in the urine. In other cases, the quantity that can thus be taken may be larger and larger. The limit belonging to the case is ascertainable by observation, and subsequently the state of the urine will depend upon whether carbohydrate is taken to a greater or to a less extent than the equivalent of that contained in the specific quantity of bread found to be permissible. When the patient is living close up to his boundary-line, sugar is apt upon occasions to be met with. This, from the variation that is liable to occur in his daily food looked at in its entirety, is only what may be reasonably expected. When, however, thoroughly below his boundary-line, there is sufficient assimilative capacity to spare to cover any little variation, and prevent the urine being influenced.

It is not for a moment to be understood that, in the restricted diet there is a complete exclusion of carbohydrate matter. Even purely animal food contains a certain amount, and in the substitutes for bread variable quantities according to circumstances exist. All that can be accomplished is to carry the exclusion as far as is practically consistent with the provision of a supply of food that the patient can satisfactorily eat and subsist upon.

As the object of the restricted diet is to reduce the supply of carbohydrate matter so that, if possible, it may fall within the assimilative capacity existing, it is of paramount importance that we should be able to rely upon the articles that are sold to take the place of bread. Without security in this matter the dietetic treatment of diabetes may not merely prove fruitless, but at the same time absolutely misleading to the medical practitioner. Unfortunately, either from ignorance or unscrupulousness, articles are put into the market for sale as appropriate food for the diabetic which are literally no more suitable for the purpose than the food they are designed to replace. Both medical man and patient require to be vigilantly on guard to escape from the infliction of grievous physical harm and subjection to vexatious disappointment. Even with foods of the better-class character considerable variation exists in the produce (particularly the gluten-flour and thence what is derived from it) of different makers, and want of success in treatment may result from the article employed not being of the degree of purity looked for. Fortunately, the high-class makers of diabetic foods in this country are fully alive to the importance of conscientiously attending to the question of purity, and the more this is realized and acted up to the better the position in which the medical practitioner is placed. It must be acknowledged that the matter is not devoid of difficulty. Palatableness has to be looked to, and ordinarily palatableness suffers at the expense of purity. The art called for is to produce food which is palatable and at the same time suitably constituted to meet the requirements of the complaint. The producer has at one and the same time to use his endeavors to please the patient and satisfy the physician, and amongst those who have exerted themselves in a right way to attain the object desired, I consider Mr. Callard deserves to be mentioned.

The state of the urine constitutes a telltale in relation to the food that has been taken, and errors in diet, in whatsoever way occurring, are unfailingly revealed. A reliable quantitative determination of the sugar is, of course, required for the purpose, and with a specimen of urine taken for examination from that passed on going to bed at night, and another from that passed on rising in the morning, the one being under the influence of the food of the day, and the other under that of fasting during the night, we obtain a disclosure, if there is any to be made, of the effect of what has been ingested. The night specimen is under the influence especially of the food taken in the latter part of the afternoon and the early part of the evening, and from this circumstance it is not infrequently found to contain sugar whilst the morning specimen may be free. On the other hand, should food be taken shortly before bedtime—in other words, should the last meal be a supper at the end of the evening instead of a dinner at the early part of it, the position may be reversed through sufficient time not having elapsed for the night specimen to be influenced, and the effect of the food being thrown instead on the morning specimen. Under such circumstances, sugar may be found in marked amount in the morning urine, and less or none in that passed at bedtime. So sensitive is the urine to the influence of food, that in the case of a glycosuric requiring a strict observance of the restricted diet for maintaining the urine in a sugar-free state, the starchy matter contained in a thin water-biscuit may suffice to impart to it a distinctly saccharine character. Whatever the nature of the article containing the carbohydrate, it equally tells upon the urine, but on account of the solubility of sugar in contradistinction to starch, articles containing the former produce a more speedy effect than those containing the latter. I need not dwell upon the delusion so extensively prevalent that toast from bread is allowable when bread itself is not, or that the starchy matter of the potato stands in a different position from that from other sources.

Removal of sugar from the urine by reducing the carbohydrate taken does not mean cure of the disease. What is wanted for cure is restoration of the assimilative power; and in proportion as this is brought about, so can more and more carbohydrate be taken without leading to the passage of sugar. If, indeed, in a diabetic case the power should become fully restored, the patient would be placed in a position to be able to take the ordinary diet without its influencing his urine, and he might then be truly told that he had shaken off his complaint.

But control of the elimination of sugar by diet is of paramount importance in promoting improvement, and may be looked upon as an indispensable measure of treatment. It is not the mere fact of the waste of food occurring with the discharge of sugar that constitutes the great source of trouble in diabetes. It is the state of system which stands as a preliminary factor to the elimination that occurs. The blood forms the connective link between the urine and the food. The sugar present in the urine has previously passed to it through the blood, and in doing so has created in this fluid a deviation from the natural state which tells injuriously throughout the entire system. It is not natural for the blood of the general circulation to contain more than a certain small amount of sugar—an amount varying but little undc. healthy circumstances. With the presence of an increased quantity as a result of the faulty assimilation of the carbohydrates of the food it is thrown into an unnatural state, and its constitution altered in such a way as to interfere with its fitness for administering to the proper performance of the nutritive and various other processes of life. All the symptoms and the results of the complaint depend upon the unnatural presence of sugar in the contents of the circulatory system, and on this condition being altered, as it is shown to be by the disappearance of sugar from the urine, the symptoms and ill effects immediately subside. It may then be said, that so long as this state can be maintained the patient has nothing to fear from diabetes. Diabetic coma is the condition most to be dreaded as an issue of the disease. With the sugar in an uncontrolled state the condition is liable at any time to supervene and speedily carry off the patient. If any other complaint of an acute nature, as influenza, pneumonia, etc., should set in, great danger is incurred of a fatal termination through the supervention of diabetic coma. A diabetic in the great majority of instances does not die in a direct manner from the superadded complaint, but from the development of diabetic coma. Not so, however, when the elimination of sugar is thoroughly under control. Such a patient is to all intents and purposes, except in relation to food, in the same position as an ordinary person. In all my experience I have never come across the supervention of diabetic coma in a case where the urine has previously been in a sugar-free state.

To control the escape of sugar by adaptation of the diet is only a rational procedure, and cannot be otherwise than right. There is a diminished assimilative power existing, and to bring the conditions to a properly balanced state there should be a corresponding diminution in the class of food calling for the exercise of the power. When the amount of carbohydrate matter of the food is shaped so as to be properly adapted to the power existing of disposing of it, there is no disturbance of the required harmony between the two, and the system escapes being prejudicially influenced by the effect of the deficient power that has to be dealt with—escapes, in other words, being thrown into an unnatural state by the presence within it of sugar which ought not to be there. The passage of sugar that can be controlled by reduction of ingested carbohydrate means neither more nor less than the unnecessary infliction of harm, and the harm inflicted stands in proportion to the amount of sugar that is allowed to reach the system, and thence to escape with the urine. The fact of the voidance of sugar affords evidence that the system is already overburdened with carbohydrate, and any addition will have the effect of increasing the abnormal condition existing. If the case is one in which the sugar in the urine is not susceptible of removal, its reduction in quantity does good by establishing within the body a closer approach to the natural state.

As I have asserted, what is to be sought for by treatment is the restoration of assimilative power over the carbohydrates, and this is often demonstrably attainable. Let me give an illustration of the kind of case I am not infrequently meeting with in my experience. A patient, say above middle age, has become diabetic, but from some cause or other does not happen to fall under proper treatment until he has reached a very bad state. His symptoms have been persistently growing more and more marked, and at the time of falling under observation he may be suffering from great thirst, passing an enormous quantity of urine, and having become much reduced in weight and strength. We will suppose that he is placed on the restricted diet, which is loyally attended to, and that codeine, opium, or morphine is administered. Even within a few days a very marked change is produced. The thirst and excess of urine subside, and the patient picks up in weight and strength. The sugar falls and ultimately disappears. In some instances this happens with surprising rapidity, but in others it may not be till after the lapse of some days, or even of a longer time than this, that the urine is found to have lost its saccharine character. The satisfactory progress continues. The patient feels as though he had shaken off his complaint, and perhaps wonders why he should have to keep to his measures of treatment. Any relaxation in diet, however, would immediately lead to a return of sugar. The power of disposing of carbohydrate matter has not yet become restored. For a while the improvement is well maintained, the weight, which in the first place underwent increase, being afterwards kept up. Later on, but when cannot be foretold, a change may set in which is not unlikely to excite gloomy forebodings by leading to the apprehension that a relapse has occurred. It may be at the end of some weeks, or more likely months, a decrease of weight may set in, and the patient may feel weaker and be reminded of the state that existed before the treatment was commenced. If with this alteration the urine continues free from sugar, it may be read off as a sure sign that a restoration of assimilative power has commenced to take place. A return to ordinary food would indubitably bring back the sugar. The improvement of power that has occurred is only likely to be slight, and requires to be met by a correspondingly slight allowance of carbohydrate matter. It appears to me that bread is the article most missed from the ordinary dietary, and this therefore I am in the habit of suggesting for employment as the representative of carbohydrate food. I begin with 3 ozs. per diem in portions of 1 oz. at each of the three principal meals. Under the circumstances depicted it may reasonably be expected that no sugar will be made to appear in the urine, and such being the case, in the course of ten days or a fortnight a trial is made of 1½ ozs. in place of 1 oz. three times daily. This also is ordinarily found to be tolerated, the indication of toleration being that the carbohydrate does not pass off as sugar. Interesting to note, with the administration of the bread the patient immediately begins to recover his lost weight and to feel himself again. Later on another drop in weight may occur, and it is to be taken as an indication for a further increase of bread. In this way I frequently work up during a space of, it may be, two or three months to 7 or 8 ozs. of bread per diem. I sometimes find that the capacity exists for the quantity to be raised to 9 or 10 ozs., and I have known cases where I have been able to proceed as far as 12 ozs., and upon rare occasions a greater latitude of diet than even this involves has been unattended with the passage of sugar. If sugar should appear in the urine it must be looked upon as meaning that the mark has been overstepped and that a retrogression must be made to the quantity found to be tolerated.

Let us for a moment pause and give thought to what the return of the capacity of taking carbohydrate matter without its escaping as sugar implies. To begin with, for a while there may be a passage of sugar with the limited supply of carbohydrate associated with the restricted diet. Then this sugar disappears, and next more and more carbohydrate can be taken without running off from the system as sugar with the urine. Surely this must indisputably mean that the system has regained a power that it had previously lost.

An important principle is involved in connection with what I have just set forth, and the facts stand in harmony with what may be rationally looked for. It is certainly a notable point that everything should work out as harmoniously as it does. The effect of carbohydrate food in health is diametrically opposed to its effect in diabetes. In health, as we well know, it contributes to the increase or to the maintenance of weight. In diabetes where sugar is being voided it does exactly the reverse. If it runs off as waste material with the urine it naturally cannot be expected to go towards maintaining or increasing weight. As a matter of fact, it leads to decrease of weight through waste occurring, and the wrong state of system induced by the abnormal presence of sugar in transit from the food to the urine. Who has not noticed the marked decline of weight that occurs in a diabetic before subjection to dietetic management and the rise that immediately follows its adoption? The circumstances in diabetes, then, are such as to lead to the supply of carbohydrate producing a loss, and restriction from it a gain of weight. The healthy person on the other hand gains weight upon its full supply, and loses weight if the supply is restricted. Now, in proportion as his assimilative power becomes raised so is the position of the diabetic brought into conformity with that of the healthy person, and so is the necessity created for his being similarly dealt with. As long as carbohydrate food fails to be utilized its supply does harm. Directly the system regains the power of utilizing it, it is found, as in the case of the healthy person, that it is wanted, and that if it is not supplied, the want is betokened by a decrease in weight and a decline of strength. The principle to put into force is to give it short of producing saccharine urine; and decreasing weight with sugar-free urine may be read as meaning that the supply is not equal to what is permissible and, moreover, wanted.

In cases where the assimilative power is not recovered, observation shows that the restricted diet is borne without the occurrence of loss of weight, and it is permissible for me to state that the circumstance may be safely taken as a guide in practice. I know of patients who have gone on for years with the restricted diet with a thorough maintenance of weight. They are not the patients to bear the supply of bread. The system cannot want or be benefited by that which it has not the power of properly disposing of but allows to run off as waste material with the urine. It is only that which can be properly disposed of that can render service to the system.

The loss of weight attendant upon unneeded restriction from carbohydrate food may afford assistance from a diagnostic point of view. If at starting, the case has not been properly diagnosed, and it should prove to be one where from simply undue concentration of urine, the high specific gravity and the slight indication of reaction with the copper-test often met with under the circumstances, an erroneous inference has been drawn, and the patient has been unnecessarily put on the dietetic management for diabetes, a loss of weight, sometimes of a marked nature, will ensue. Equally also, loss of weight will ensue if the case is one of mild glycosuria, and it is treated as one of ordinary diabetes. Rightly appreciated, the result noticeable will be suggestive that curtailment of the supply of carbohydrate matter is being carried to an uncalled-for extent.

From the remarks I have made it will be gleaned that food stands as the great factor in the treatment of diabetes. As I have stated, the object really before us for attainment is restoration of assimilative power. My experience leads me in an explicit manner to say that I believe this is promoted by the medicinal employment of opium or its alkaloids, and I think the view accords with the result of the general experience of others. The older physicians, before the dietetic management of diabetes stood in the position it does now, empirically arrived at the conclusion that an amelioration accrued from the administration of opium.

Although the great factor in relation to the amount of sugar eliminated, food is evidently not the only one. The pathological condition which stands at the foundation of the wrong action constituting the immediate source of the elimination is presumably influenced by incidental circumstances. In many cases, it is true, it may be noticed that the assimilative power stands with remarkable constancy at a fixed point for a prolonged period, but in others evidence is presented pointing to the patient being liable to be influenced by collateral conditions, especially of a mental nature, having the effect of altering to a greater or less extent the amount of sugar eliminated upon a given quantity of carbohydrate when sugar is being passed, and of leading to a certain amount of elimination when the urine has previously been in a non-saccharine state.

The phenomena I have hitherto been speaking of belong to what is appropriately styled the alimentary form of diabetes, which I would certainly say from my own experience is far more common than the other, but at the same time is not the form that most frequently finds its way into the wards of the hospital. Besides the cases controllable by attention to food, we meet with others in which no amount of dieting will remove the sugar from the urine. These present us with the classical type of the disease, and may be grouped into what may be called the grave form of diabetes—a form belonging especially to the period of life below middle age. A superadded condition exists which leads to sugar being derived from the tissues as well as from the food. The glucoside constitution of the nitrogenous principles of the body supplies an intelligible source for sugar, all that is wanted being a pathologically developed ferment possessing the power of breaking them up with the liberation of their sugar molecule, just as occurs with amygdalin in the presence of emulsion.

Cases progress from the alimentary form into the grave form, and it is upon the extent to which the progressive tendency exists that the issue depends. Amongst persons above the middle period of life the progressive tendency is usually susceptible of being held in check; and often, as I have shown, progress even in the opposite or right direction is to be brought about. I think it may be definitely said that allowing the complaint to run on in an uncontrolled state promotes the passage from the alimentary into the grave form, but undoubtedly there is nothing like the same proneness for the occurrence of the passage amongst elderly that there is among young people. It is indeed the strongly marked progressive tendency that gives the formidable nature to diabetes in young subjects. A striking analogy is presented to the progressive diseases of the nervous system; and—but this is a point that time precludes my entering into—may we not have at the foundation of diabetes a wrong nerve-condition implicating and operating through the vaso-motor system? In its early stage, the complaint may be just as controllable in a young as in an elderly person, but as time goes on, the difference becomes manifest, and it is found in the former that through the advance that has insidiously taken place the measures that before produced a satisfactory state no longer succeed in doing so. The rate of progress may vary considerably. In some cases with an inherited history I have known it extend over many years.

And now, Mr. President and gentlemen, let me in concluding this lecture express the hope that I have succeeded in clearly placing before you what is in my own mind as the outcome of the lifelong attention I have given to the subject upon which I have addressed you. The views I have set forth have sprung entirely from experimental physiological work on the one hand, and from practical experience in connection with diabetes on the other. With this foundation, they harmonize with the assemblage of facts to be dealt with belonging alike to physiology and pathology; and, at one and the same time, they bring the whole matter into a state of great simplicity, and supply a working basis upon which the treatment of diabetes may be rationally and reliably conducted. With the glycogenic doctrine the teachings of diabetes are absolutely irreconcilable, and it may, moreover, be said that modern research has removed the support upon which it was originally based. And yet the doctrine still lingers in the mind, influencing its conceptions and shaping its views, for persons seem unable to look at points belonging to the subject otherwise than through the prepossessions that have been engendered thereby. The chapter, however, will have, sooner or later, not simply to be revised, but completely rewritten; and the sooner this is done the better, I feel I am justified in saying, will it be for the right comprehension of diabetes by the medical profession.

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The Dose of Diphtheria Antitoxin

The curative dose of antitoxin for a child from 2 to 5 years old, with suspicious symptoms, is, according to Prof. J. W. Taylor (*Philadelphia Polyclinic*, Vol. VI, No. 48, p. 97), about 1000 units. If the disease is well marked, 2000. If at the end of six hours the case is in the same condition, repeat the dose of 2000; if it is worse, he advises to use 3000 units; if much better, wait until twelve hours have passed, then if in the same condition, repeat 2000, or if ever so little worse, 3000 or 4000 units at a dose. Then wait six or twelve hours, and repeat again if the same condition obtains—at six hours, 3000 if worse, 4000; if better, wait until twelve hours elapse, and give 3000 or 4000 units, making the third dose in a favorable case, or the fifth dose in an increasingly ill case. These three doses, or at most five, will usually be sufficient.

When the symptoms grow steadily worse the dose may be repeated every six hours, increasing by 1000 at each injection, thus 2000 units in six hours; 3000 in six hours more (total, twelve hours); 4000 in six hours more (total, eighteen hours); 5000 in six hours more (total, twenty-four hours); 6000 units at this last dose—continuing to thus increase if necessary.—O.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

JOSEPH P. WINSTON, M.D., GEORGE E. WEST, M.D.,
W. J. ROBINSON, M.D., L. SCHÖNEY, M.D.

Acute Partial Enterocele

Dr. Stahl (*Jour. of the Amer. Med. Asso.*, Oct. 2, 1897) concludes:

1. Acute partial enterocele does occur.
2. The symptoms of this condition are of a milder type than those of an acute complete enterocele; if it is strangulated, the vomiting is not stercoraceous and constipation not absolute. Exceptionally the reaction is so slight that the condition continues unrecognized.
3. Because of the mildness of symptoms, smallness, and tendency to disappear, it requires most careful differentiation.
4. Acute partial enterocele is to be especially differentiated in its early forms from a large inguinal gland; in its later or inflammatory form from suppurative adenitis.
5. The acute form of partial enterocele, if not relieved, either induces the usual reactionary changes of an acute hernia or it is converted gradually into the chronic form of partial enterocele.
6. The treatment consists in reduction by taxis or in herniotomy. O.

Baccelli's Phenomenon

Prof. Baccelli (*Policlinico*, III, No. 12), in a lecture given at the Roman University, gave an explanation of the phenomenon which has been named after him, and how to hear it.

He stated that the lung, on being displaced and compressed by the pleuritic exudate, will the better transmit the vibrations to the fluid cone which lies before it, and besides the vibrations will be modified by the character of the fluid itself.

1. Sonorous vibrations, traversing a fluid, act like luminous vibrations.
2. In a fluid they are transmitted in an inverse ratio to its density, contents and heterogeneity.
3. The heterogeneity of the fluid is measured by the variations in its detritus, false membranes, fibrinous and albuminous phlegms, and especially the leucocytes, purulent cells and blood-corpuscles.
4. The density is in maximum relation to the corpuscular contents of the fluid, in medium relation to the albumen, and in minimum relation to the fibrin and fibrinogen.

It can be stated that in cases of very tenacious fluids, the Italian word *trentatre* (meaning 33), aphonically sounded, will be transmitted in all its letters, as well as if pronounced before the ear, and besides, the last vowel-sound will end in a prolonged echo (tren-ta-tre-e-e). As the fluid becomes heterogeneous and filled with corpuscles, the transmission of the word tren-ta-tre will be gradually reduced; the first letter lost is *r*, the second *t*, the third *n*. Finally the vowels disappear, and the sound is changed into a labial impulse, which soon ends in silence.

Two experiments by Krell prove the diagnostic value of the phenomenon. Holding in the hand alternately two thin porringers, one full of water and the other full of pus, while a tuning-fork is vibrating in contact with the surface of the fluid, the hand feels the vibrations very easily in the first case and not at all in the second.

Again, when two bottles are filled, one with water, the other with pus, and auscultated while a vibrating tuning-fork is held at the surface of the fluids, in the first the sounds are clear and distinct; in the second they disappear or are scarcely felt.

For the production of the phenomenon in the pleura thirty grammes of fluid are sufficient. It has an application in cases of pericardial exudates also. Thus if the fluid is tenacious the sounds of the heart are well transmitted, while if it is heterogeneous, as when it contains fibrin, purulent cells, epithelial cells, etc., the sonorous movement will no longer be well transmitted.

Baccelli's phenomenon was described in France by Guéneau de Mussy under the name of *pectoriloquie aphone*. This fact produced considerable confusion among medical men, as what they called *pectoriloquie aphone* is a wholly different phenomenon found in cases presenting pulmonary cavities, bronchectases and certain indurations, while it is not a phenomenon that could reveal the character of the exudate.

In evidence of the importance of Baccelli's phenomenon transmission of the aphonic voice would alone be enough to make the diagnosis of serous exudation possible, and it is particularly valuable in case the whole pitch from the disease should mean purulent exudation.

Carelessness in searching for the phenomenon is many times a cause of its being overlooked. The position of the patient's face must be, so far as possible, in the opposite direction to that of the ear of the auscultator, and diagonally to the middle line of the exudate. No stethoscope need be used, and the ear must be applied as firmly as possible directly on the point to be auscultated. Any other contact with the patient's body must be avoided, and the other ear occluded. The presence of thick membranes, surrounding the fluid, may gradually weaken the intensity, but the weakness will affect the whole word alike, and no particular letter will be reduced in sound. In such cases the best place to auscultate is the space between the paraxillary anterior and posterior lines, where there are no thick muscles. Still the fact that sometimes the transmitted voice is clearly heard in lower points of the thorax, has a greater value, because the inflammatory elements by gravity have a tendency to go down.

The selected places to auscultate are the inferior and antero-lateral regions of the thorax and the dorsal region; the middle line is the best. The patient must cross the arms so that the left hand covers the right shoulder, and *vice versa,* raising up the elbows to pull the scapulæ upward and outward.

In children the vocal vibrations increase as the thorax is much more elastic, and on that account it is wise to cover it with a doubled towel to weaken the vibrations.

In cases of sero-purulent exudations, the upper stratifications being necessarily more tenacious, transmit the word with almost perfect clearness. The change in transmission takes place not gradually, as in sero-fibrinous exudations, but instantaneously.

W.

Syphilis of the Thoracic Organs

The following, in reference to syphilitic broncho-pneumonia, is an abstract of a clinical lecture delivered by Dr. H. A. Robbins, published in *Maryland Medical Journal,* Vol. XXXVIII, No. 4:

Drs. Balzer and Grandhomme have recently made several necropsies of syphilitic still-born infants, and the results of their examinations prove that syphilitic lesions, which are caused by microbes, like other inflammations, do not appear to preserve any specific character in their evolutions. With regard to the lungs, syphilitic pneumonia may be classed with broncho-pneumonia, and is analogous to the secondary pneumonia of acute infectious diseases, such as measles, or of chronic affections like tuberculosis. Syphilis in the fetus assumes the different forms of broncho-pneumonia and other lesions, according to its violence and degree of its chronic stage. The authors classify these forms of broncho-pneumonia, including pulmonary congestion, and lesions which are not apparent on microscopic examination.

1. Broncho-pneumonia or agglomerated nuclei disposed in a vertical band at the posterior portion of the lungs. These forms correspond, with regard to lesions, to subacute forms of broncho-pneumonia of other infectious diseases, and invariably assume the following type.

2. Broncho-pneumonia, with white hepatization, without dilatation of the bronchi, corresponding to the hepatization of other forms of broncho-pneumonia. It may lead to fibro-caseous or gummy degeneration.

3. Broncho-pneumonia, accompanied by dilatation of the bronchi. It may be said that pulmonary syphilis is identical at different ages.

C.

Chlorosis and Its Treatment

Prof. Hayem gives a thorough résumé of his treatment of chlorosis in *La Méd. mod.,* VIII, No. 90, page 713. The three cardinal points are: (1) Rest, (2) diet and attention to the gastric functions, and (3) an assimilable form of iron.

1. The first requirement runs counter to the opinions of a great majority of physicians, who in cases of chlorosis prescribe physical exercise, fresh air, walks, etc.; excellent means, they say, to stimulate the circulation, increase the appetite and general strength. But the author is certain of the fallacy of this treatment. He noticed many years ago, that chlorotic patients confined in a hospital got cured much quicker than those free to walk about. On carefully analysing the urine and feces, he found that on days in which exercise was taken, they contained more blood-pigments than on days of perfect rest. In days of rest the urine is very slightly colored; in days of exercise it is highly colored, and gives the reaction for urobilin and urohematin. Is it not proof positive that exercise increases the deglobulization of the blood, while rest stops it? Rest is therefore, with the author, a *conditio sine qua non.* It fulfills two more indications. It relieves the neurasthenia, which is such a frequent concomitant of chlorosis, and allows us to do away with the corsets for a while, and thus give the stomach a chance to come to its normal condition.

The time of absolute rest varies—in severe cases with great asthenia from six to eight weeks are required; in medium cases a month is sufficient.

2. As there are very few cases of chlorosis not complicated with some form of gastric trouble, the treatment of this condition is of great importance. Every case must be treated according to the stage and the form of the gastritis.

The diet must be a very strict one, and consists, at first, of milk, milk soups, and raw meat; in from two to three weeks, soft eggs, white fish, green beans, and cooked fruit should be given. Bread should be allowed only in from four to five weeks after the patient comes under treatment. Where there are pains in the stomach, a wet pack, during the night, will do good.

Massage of the stomach is very useful, especially when the gastric dilatation is of mechanical origin (from compression by the corset). Exceptionally a few washings may be necessary.

In those suffering with hypopepsia, hydrochloric acid after meals is, of course, indicated.

3. Iron is the specific in chlorosis, but it is by no means indifferent what preparation is selected. A preparation that is not assimilable by the organism, be it organic or inorganic, is useless. Neither manganese dioxide nor arsenic can claim the place held by iron in the treatment of chlorosis. The statement made by some authors, that the patients can get all the iron they need from the food, and that the medicinal iron acts only as an appetizer and a stimulant to the digestive functions, is utterly untenable. The author administered stomachics, inhalations of oxygen, employed hydrotherapeutic measures, so that here was a consumption of large amounts of iron-rich foods, but though there was an improvement the first two weeks, that improvement was not progressive; the newly formed blood-globules remained imperfectly developed, and the blood-characteristics peculiar to chlorosis persisted, until a medicinal form of iron was ordered.

The author's favorite preparation of iron, one he has been using exclusively for many years, is the ferrous oxalate. The advantages of this salt are that the dose is small—1½ to 3 grn. (maximum) twice a day, and the treatment needs to be continued for but a short time. Ferrous carbonate (Blaud's pills) the author does not favor, as very large doses and a long course are required in order to attain good results. M.

On Extirpation of the Thyroid and Suprarenals

In some experiments to investigate the importance of the extirpation of the thyroids and the suprarenals in their relations to the health of the organism, L. Blumreich and M. Jakoby, in *Pflügers Archiv.*, Vol. LXIV, page 1, show that in rabbits cachexia is not always the result of thyroidectomy. In those cases in which cachexia developed there was nearly always a decrease in the lymphoid apparatus, with marked dilatation of the stomach and intestinal lumen, and retention of the biliary secretions. The authors claim that the anatomical changes, after thyroidectomy, are similar in many ways to the lesions produced by chronic iodine-poisoning, and suggest that perhaps the function of these glands is to convert a poisonous iodine compound into a harmless iodothyroidin. J.

Tubercular Meningitis

Dr. J. A. Hodges, of Richmond (*Gaillard's Med. Jour.*), directs special attention to the diagnosis of tubercular meningitis. The membranes involved are the same as those in simple meningitis, but the anatomical lesions differ, for the latter affects the pia and arachnoid on the convexity of the brain, while tubercular meningitis attacks those membranes at the base. Too great importance cannot be attached to the mode of invasion of this disease as a diagnostic point. In simple meningitis there is a stormy onset, and a convulsion ushers in the scene, while in tubercular meningitis the convulsion is usually one of the last acts in the sad drama. In tubercular meningitis, this period of invasion is so peculiar that it cannot be mistaken by the careful observer. The initiatory symptoms are so indefinite as often to be deceptive. There is simply a gradual failing of the general health, the only physical sign of disease being more or less evident emaciation, which at last becomes a marked feature of the case. Another symptom, which may be termed a moral change, develops itself, manifested in both the habits and temper of the child. Formerly bright and playful, it now becomes morose and sluggish, or irritable and disagreeable, continuously and progressively more marked. Coincident with this is a violent, paroxysmal and generally localized cephalalgia, vomiting, of a propulsive or regurgative character, and unaccompanied by pain or nausea, being usually associated with it. These symptoms, accompanied by a mild degree of pyrexia, the temperature usually exceeding 100½°F., a slightly accelerated pulse, wakefulness, photophobia, constipation, contraction of the pupils, with possibly some hyperesthesia of the abdomen, constitute what the author would denominate the first stage of the disease. These prodromal symptoms of the first stage may extend over a period ranging from one to several weeks. The second stage ushers in more pronounced symptoms, these becoming intensified. A peculiar embarrassment of respiration is noticeable also, the patient sighing deeply and long. The pulse becomes remarkably slow, with generally an interference in its rhythm, corresponding to the change in respiration. The eyes half close, the eyeballs moving slowly in a lateral direction, one or both pupils dilating. At this period there are sudden flushes of the face, and a kind of mottling appears on the skin, over which, if the finger be drawn, red marks are left temporarily. A sunken, retracted condition of the abdomen is also evident. There is also developed a cephalic cry, which, once heard, is never forgotten. The remission in the fever, which is apt to occur now, is often deceptive and may lead to false hopes. The foregoing train of symptoms is but introductory to the third stage, where coma is the prominent feature, overshadowing all the other conditions. Evidences of vital depression and of organic implication are now more marked, and slight twitchings around the mouth and eyelids, or a convulsion, followed by ptosis, strabismus, or paralysis of the face or extremities promptly follow. The head may become retracted, and all the symptoms increase in severity until the fatal termination ensues. The course of this disease is sometimes acute, sometimes chronic, also presenting long intermissions, and sometimes steadily progressive. It is evident that an absolutely positive diagnosis of tubercular meningitis can be made only when a full and true history of the successive phenomena can be obtained; or when the symptoms of a tubercular meningitis supervene upon tubercular lesions previously existing in other organs. Some of the diseases with which this disease may be confounded are: Simple meningitis, cerebrospinal meningitis, the hydrocephaloid state, malarial fever, typhoid fever. As to treatment, the author, recognizing the utter helplessness of all known measures of therapeusis, proposes in future to use antitubercle serum, or, if that prove insufficient, to employ surgical means to remove the intra-cranial pressure. Although radical in the extreme, it is a principle applied to all other forms of internal pressure and engorgement, and the necessities of such cases demand the application of any measures based on scientific warrant. L.

Perspiration-neurasthenia

Dr. Peyer (*Med. Times and Hosp. Gaz.*, No. 1015) reports the case of a man 30 years of age who, during the last four years, had perspired profusely in the day, and, during the last month, also in the night. So profuse was the perspiration that he was obliged to change his clothes several times during the night. He had become very emaciated. Many drugs were tried, but without any benefit. As the patient confessed to having masturbated for many years, the diagnosis of sexual neurasthenia was made. He was treated with sounds and the psychrophore, and after six weeks of this treatment the perspiration ceased and the patient was completely cured. M.

The Gastric Juice and the Thyroid Gland

Boll. d. Sci. Med., Vol. VIII, series 7, fasc. 4, states that in thyroidectomized dogs there was a marked diminution in the amount of gastric juice immediately following the operation, and the percentage of hydrochloric acid was reduced. This was frequently confirmed by a series of experiments, and it was also shown that, whereas the amount of hydrochloric acid was universally diminished, the total acidity of the gastric juice did not show like diminution, but, on the contrary, often showed an increase in total acidity. J.

Diagnosis and Treatment of Hematemesis

Medical Week (Vol. V, No. 14, pp. 157-159, 1897) reproduces a lecture given by Dr. A. Robin, at the Piété Hospital, Paris. The features of hematemesis have one common phenomenon, viz., presence of blood in the vomit. The amount and appearance are equally variable. Accessory phenomena, pains, fermentation, etc., may be present or absent.

Bright-red vomitus makes the presence of blood positive. "Coffee-grounds" vomitus may be from bismuth, black may be from gallic acid, associated with iron, forming ink; or, it may be due to bile.

Melena, food-particles or lactic acid in the vomit show that it comes from the stomach and not from posterior epistaxis, stomatorrhagia or hemoptysis.

The pathological diagnosis is more difficult than the symptomological.

When very abundant, gushing, and rapidly fatal, hematemesis is either from aneurism bursting into the stomach or round ulcer opening into a large artery.

When less abundant, not gushing, nor rapidly fatal, it is in 80 per cent. of cases due to round ulcer of the stomach. In other cases it is rarely due to simple ulcer of the esophagus, or duodenum, in the latter case being accompanied by melena and pain referred to the duodenum. It is most often otherwise due to gastric cancer, in which case the last stage of the disease will have been reached and the diagnosis already established. Seldom is there a precocious gastrorrhagia in cancer. Abundant hemorrhage may come from alcoholic cirrhosis of the liver.

Other causes of hematemesis are hysterical conditions, vicarious menstruation, varicose veins of the esophagus, miliary aneurisms of the gastric mucous membrane, certain hemorrhagic infectious diseases with fever and traumatism.

For slight hemorrhages with black blood, cancer is the chief cause. Grisolle regards the black vomit as "almost a pathognomonic sign of cancer of the stomach, especially so when it has for some longer or shorter period been preceded by dyspepsia, loss of appetite and marked loss of flesh." "Coffee-grounds" vomiting may be absent in cancer, and may occur in a number of other morbid states.

In gastric ulcer the occurrence of black vomit frequently alternates with bright-red blood. Diagnosis between the hematemesis of cancer and that of ulceration in the course of chronic gastritis is very difficult because of the similarity of symptoms. Cases of uremia, wrongly treated, may give rise to repeated hematemesis. This is also true of an unrecognized strangulated hernia. In cases of embolus or thrombosis of the blood-vessels of the stomach, stasis of blood in the portal system (from cirrhosis of the liver, or cancer), hematemesis from vaso-motor influence (in general paralysis), yellow fever, malignant jaundice, purpura, leucocythemia, scorbutus and intoxications, the true cause is perceived by referring to the etiological data.

As to the treatment, it may be said generally that it is easier to prevent than to cure. This is true especially of gastric hemorrhages on account of uremia, hernia, chronic gastritis, cirrhosis, and round ulcer.

In simple gastric ulcer, preceded by gastric hypersthenia, Cruveilhier's law of absolute milk diet must constitute the basis of treatment: milk in such cases is harmless, produces slight saturation of the acids and acts sedatively on the hydrochloric-acid secretion. Three liters of milk a day must be taken in five portions at regular intervals, cold and mixed with a little lime-water. It should be continued for six months, even though no other morbid symptoms appear. This diet, far from causing distention of the stomach, diminishes it.

Von Leube first washes out the stomach to free it from fermented matter, next injects an alkaline solution to neutralize the contents of the stomach, and finally pours in an emulsion of bismuth. Dr. Robin objects to it because it introduces a tube into an ulcerated stomach, but in other respects admits it to be rational. He cites Cornillon and Duguet as authority for cases in which fatal hemorrhage was caused by using the tube. But he recommends combining the bismuth with the absolute milk diet. A suitable powder would be this:

Magnesia	1.50 gme. (23 grn.)
Bismuth Subnit., Sodium Bicarbonate,	āā..1.00 gme. (15 grn.)
Pulverized Opium	.05 gme. (¾ grn.)
Lactose	.50 gme. (2½ grn.)

Dose: One powder, once or twice a day.

Keep the bowels open. The symptomatic treatment will require that the patient be put to bed at once with the head low, hypodermic of ergotin into the pit of stomach, ice over stomach, internal administrations of from 5 to 10 ctg. of extract of opium, and every two hours a tablespoonful of the following:

Ergotin	4.00 gme. (1 dr.)
Gallic Acid	0.50 gme. (8 grn.)
Extract Opium	0.10 gme. (1½ grn.
Syrup Turpentine	30.00 gme. (1 oz.)
Dist. Water of Lime-flowers.	120.00 gme. (4 fl. oz.)

At the intervening hours, a tablespoonful of the following:

Eau de Rabel*	3 gme.
Distilled Water	1 liter.

* Eau de Rabel	Conc. Sulphuric Acid	100 parts
	Alcohol (85 per cent.)	300 parts

Mix slowly and color red with petals of wild poppy.

For syncope keep the head low, use Mayor's hot hammer, amyl nitrite, injections of ether or of Hoffman's anodyne, flagellation, mustard sinapisms on the legs; as a last resource, transfusion.

Where blood threatens strangulation, with finger in the throat effect rhythmical traction on the tongue.

For stubborn vomiting increasing hemorrhage:

Picrotoxin and Morphine Hydrochlorate āā	50 ctg. (7½ grn.)
Atropine Sulphate	1 ctg. (⅙ grn.)
Ergotin	1 gme. (15 grn.)
Distilled Water	10 gme. (2½ fl. dr.)
Alcohol	q. s. ft. sol.

Dose: 8 to 10 drops in water.

H.

Extirpation of the Parathyroid Gland

Evidence is accumulating that the parathyroid glands are of as much, if not more, importance than the thyroids. G. Vassale and F. Generali, in the *Rivista di Patologia nervose e mentale*, Vol. I, No. 3, give the results of a number of experiments upon cats and dogs from which they have removed the parathyroids. The symptoms produced were as follows: In cats the cachexia commenced to develop by the fifth day, and in dogs in from three to four days. In from four to five days after, the animal died with convulsive seizures, and other symptoms exactly similar to those found after experimental thyroidectomy.

J.

PEDIATRICS

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DE FOREST, M.D., H. T. HOTCHKISS, M.D.

Carcinoma of the Colon in a Boy Twelve Years Old

Dr. Garrard (*Quarterly Med. Jour.*, Vol. V, p. 234, 1897) relates the following case: J. B., 12 years old, came under his observation on October 27, 1895, with a history of constipation, pain, vomiting, distention of abdomen, etc. Coils of intestine could be seen in peristaltic action; distended bowel could be felt pressing into the rectum, but no stricture was within reach. His condition was urgent, and an immediate operation was found indicated. Upon opening the abdomen in the median line, the distended colon came at once into view and the sigmoid flexure was obviously the seat of mischief, the colon above was twisted on itself from distention; there was no growth outside the bowel. Untwisting the colon had no effect in removing the stricture, median colotomy was then performed, and owing to the urgency of the case, after fixing the bowel to the skin, it was punctured with a large trocar and canula, and thus a large quantity of fluid feces evacuated. After trying a ligature around the opening with bad results, an artificial anus was made the next day. The boy made an uneventful recovery. When under an anesthetic the stricture could, however, be felt through the artificial anus, but not by rectum. After remaining about six months in tolerable comfort, the boy returned again, complaining of pain in the artificial anus. A hard mass was then found in the skin all around the artificial anus, which was ulcerated with everted edges, the spur much thickened and infiltrated, partly blocking up the opening and causing constipation again. Carcinoma was positive. The boy died two months later. The post-mortem showed that the growth was a colloid columnar-celled carcinoma, arising from the sigmoid flexure, infiltrating the adjoining meso-colon and bladder. O.

Premature or Infantile Menstruation

Dr. E. Seuvre, in *Jourl. de Cliniq. et de Thérap. inf.* (No. VI, pp. 118, 119, 1897), gives this interesting new case. Early in January a fond mother brought to the clinic a girl of 4 years 9 months with vaginal blood-loss resembling menstruation. The mother, married ten years, has six children, two of whom are girls, one 9 years and the patient in question, 4 years 9 months. The mother first menstruated at 14 years, and her mother and grandmother at the same age. The little patient had milk in the breasts a few days after birth; and the breasts always continued somewhat developed. The child is brunette and enjoys good health. One year ago the mother noticed that, while the child was not larger than others of her own age, she was becoming broader in the hips, thicker in the thighs and larger especially in the breasts. Moreover, her parents have noticed precociousness of feeling and serious-mindedness.

There was no fever, and the health pronouncedly good. Examination shows vaginal flow of blood, which proceeds from the uterus and not from any other source. Labia majora developed and covered with developing hair, as was the pubis. The thighs were strong and muscular, and the pelvis large. The breasts were as large as in a girl of 16 years. He cautioned the mother to watch every four weeks, and give hamamelis if earlier flow set in.

The phenomena are due to precocious maturation of Graafian follicles. The works of Corte, Pouchet, Raciborski, Longet, and Sappez have shown that the ovary, even in fetal life, contains numerous follicles that wait only a favorable occasion for development.

Autopsies have shown visible follicles at the end of the first year.

Raciborski instances menstruation in children at 3, and even 2 years of age.

Descuret instances a case of menstruation beginning in a little girl of 2 years of age, who married at 27 years, had several children, and whose menopause commenced at 53 years. Raciborski affirms, contrary to the general opinion (viz.: that early menstruation causes early menopause), that often the earlier the menses commence, the more fruitful will the mothers be, and the later will be the menopause. H.

Diabetes in Children

Dr. Dreyer reports (*Deutsch. med. Woch.*, 1897, No. 37, p. 596) a case of diabetes in a child of 2 years. According to the author, this is the seventh recorded instance of the occurrence of this affection in children up to 3 years of age, and the fourth case in a child of 2 years or under. In spite of treatment, death occurred twelve days after the affection was recognized. Autopsy was not made. At first the urine contained sugar only; the day before death, aceto-acetic acid, albumin and sugar were present. In these infantile cases of diabetes, the author believes the prognosis almost invariably fatal. B.

NEUROLOGY AND PSYCHIATRY

HENRY LYLE WINTER, M.D., SMITH ELY JELLIFFE, M.D.

Insanity Following Abuse of Cycling

Annales Médico-Psychologiques relates, on the authority of the *Temps*, that, following a six-day bicycle-run, organized in New York, in which the prize men made almost 2000 miles, these and others of the racers manifested serious mental disturbances. The champions reached such a state of excitement that they showed signs characteristic of mental alienation. A negro, after racing two days, refused to take any nourishment, accusing those around him of wishing to poison him. Doctors present declared that the men were affected only temporarily, but might be chronically if such excess were kept up long. H.

Paroxysmal Paralysis of Epileptic Nature

H. Higier, of Warsaw, states (*Neurologisches Centralblatt*, No. 4, 1897, ref. in *Inter. Med. Mag.*) that the distinction between partial (Jacksonian) and true epilepsy is not a sharp one. The partial may end in general convulsions, with loss of consciousness; on the other hand, chronic convulsions in true epilepsy may occasionally be limited to a certain part of the body, and not be with unconsciousness. In Jacksonian epilepsy, with a sensory aura, due to syphilitic disease, consciousness has been found to be much affected, even when the convulsions were confined to one limb. The aura may be the same in either form. The partial epilepsy is often the initial symptom of an organic cerebral affection, but the true epilepsy may also occur as such. Involuntary passage of urine and status epilepticus may be found in either form. The sensory equivalents of epilepsy are well known. They consist of transient disturbances of sensation, which may be limited to some one part. The paralytic form of Jacksonian epilepsy is uncommon. Higier reports the case of a boy of 6 years, who had an attack of epileptic convulsions with loss of consciousness. A week and a half after this he began to have momentary attacks, almost daily, of paresthesia with paralysis in the right leg, lasting from ten to fifteen seconds, without loss of consciousness. Sometimes the weakness extended to the trunk-muscles and the upper limb of the same side, and the boy fell if he were standing. The weakness in the hand was never so great as in the leg. There was frequently a sensation of tickling preceding the paralysis. Higier regards the condition as a motor paralytic equivalent of Jacksonian epilepsy, and bases his opinion on the following facts: In essential epilepsy the patient sometimes falls unconsciously, and the muscles remain relaxed. A paralysis of brief duration is common after attacks of Jacksonian epilepsy. Occasionally in partial epilepsy one part of the body may become convulsed, while another on the same side may be paralyzed. Weakness may precede convulsions in Jacksonian epilepsy. In partial sensory epilepsy, occasionally complete loss of function of one of the organs of special sense may be noticed (transitory deafness, blindness, or diminution of the visual fields) as an equivlent, and may be associated with motor paralysis, or aphasia. *Migraine ophthalmoplégique* is undoubtedly at times an epileptic equivalent, and motor paralysis (of the eye-muscles) is prominent in this. Chorea is similar to epilepsy, and there is also a paralytic form of the former, chorea mollis s. paralytica. In Higier's patient, the aura, the short duration and similarity of the attacks, the sudden falling, the occasional attacks during sleep, the monoplegic or hemiplegic type, the successive involvement of the affected parts, the convulsions in infancy, the two or three typical epileptic attacks, and the good effect of bromide, are indications of the cerebral nature of the affection. Higier is inclined to think there may have been a small tumor in the leg-center, possibly tubercular, as there were certain suggestive symptoms of tuberculosis. He is able to refer to very few cases similar to his. B.

A Strange Sexual Perversion

Tambroni (*Gazz. degli Ospedali*, July 11, 1897) reports the case of a young man, 19 years old, with slight hereditary taint, who did not show any nervous anomaly until that age. When only 11 years of age he had seen in a paper a picture representing a father kicking his daughter. He then received a very strong impression thereof, and at the same time felt a strange voluptuous sensation. Now the reinvocation of that image is the only condition that will produce the orgasm during coition. The case represents a mixed type of sadism and fetichism, and is of great importance for the following reasons:

1. The perversion appeared in a person apparently normal in every respect, and hence the anomaly is a rare manifestation of degeneration.
2. So far as is known, it is unique in that the perversion had as an object a pure image, an abstract idea.
3. The pathogenesis is obscure. W.

SURGERY

WILLIAM B. COLEY, M.D., JARVIS S. WIGHT, JR., M.D., DAVID M. STÄBLER, M.D.

Deductions from an Experience Based upon Supra-pubic Cystotomy, Performed Fifty-one Times

Wyeth (*Polyclinic*, July, 1897) states that supra-pubic cystotomy should be preferred in all cases in which entrance to the bladder by an operative wound is desired. For the removal of all forms of neoplasms no other method is to be compared with it. For the extraction of foreign bodies also, which cannot be withdrawn by means of the small Thompson lithotrite without undue violence to the urethral canal, it is to be preferred. It is the better operation in all cases of vesical calculus, with the exception of very small and soft calculi in adults in whom the urethra is capable of freely admitting the lithotrite and in whom the bladder is not affected with marked cystitis. Under such conditions, in expert hands, litholapaxy is permissible, the fragments being removed with the evacuator. In all forms of cystitis due to prostatic hypertrophy the perineal operation cannot be compared to the supra-pubic incision. In females it should supersede the establishment of a vesico-vaginal fistula, for, with proper care, a perfectly satisfactory drainage and rest to the bladder can be obtained by supra-pubic siphonage, a method which will not only cure the cystitis, but saves the patient from a secondary and formidable operation in the closure of the vesico-vaginal fistula.

The danger of death after this operation is not great, and it is not without interest to note that in the four fatal cases, cerebral symptoms were prominent. As in all other surgical procedures, chiefly the old and worn-out perish. The author arranged his cases in the following order: First, tumors, of which there were eighteen cases; thirteen of these were connected with the prostate; three were papillomata of the wall of the bladder; two unclassified tumors, one a small sessile elevation in the trigonum, and the other a simple pedunculated mass growing near the internal orifice of the urethra in a woman, removed with the finger, and while easily recognized, was crushed in the act of removal and lost in the effort to extract it (probably myxoma). Of the thirteen tumors of the prostate, one was cancer of the left lobe and body in a patient 24 years of age, a palliative curettage being done to relieve pain from pressure. The twelve cases of prostatic hypertrophy furnished to the mind of the author the most interesting group. From a clinical standpoint, prostatic hypertrophy is general (concentric), or local in character. When local, there is almost always the so-called tumor of the middle lobe, with hypertrophy of one of the lateral lobes, but not of the entire organ. In six of the twelve cases there was concentric hypertrophy, meaning thereby such abnormal development of the tissues of this organ that not only does it expand in all directions (except anteriorly, in which direction its development is arrested by the triangular ligament), until the canal of the urethra is practically occluded, but the organ projects backward into the cavity of the bladder, forming a mass which may properly be likened to a prolapse of the rectum of long standing. Dr. W. has in all these cases declined to attempt any removal of the enlarged organ, but advised permanent supra-pubic drainage. The objections to extirpation are forcible, since removal of that portion of the organ projecting back into the bladder would not relieve the obstruction, while the removal of the entire organ under such conditions would be exceedingly dangerous to life, and, in the author's opinion, entirely unjustifiable.

Moreover, in all of these cases there is such a chronic condition of over-distension of the bladder and partial paralysis that this organ is unable to empty itself even after the obstruction is removed. The proper operation, therefore, is drainage. In six cases there was a tumor of the middle lobe, and this obstruction was removed. In three of the cases, calculi were present, which, however, did not materially complicate the operation. Three cases were papillomata, the tumor springing from the posterior wall in each case, in two, from the upper posterior wall, or toward the summit of the bladder, and in one, on the posterior inferior wall, about half-way between the two ureteral openings. The most frequent disease of the bladder which requires drainage is chronic cystitis. Twenty operations for this condition, uncomplicated by tumor or stone, were performed. These operations were done in nineteen patients, two of whom were but 4 years of age, one of these having had tuberculosis of the bladder, the second a compression myelitis with paralysis and an infectious cystitis due to the use of the catheter; the latter had a recurrence through a second catheter infection several months later, the operation being repeated. He finally recovered and was cured of the compression myelitis by laminectomy and the removal of a tumor of the spinal cord, becoming fully restored to usefulness. The shortest period of drainage was seventeen days, the longest eight weeks. In twelve of these cases a cure resulted; two were improved; in one permanent drainage was established on account of the paralysis of the bladder due to prolonged over-distension, and a single case was not improved by the operation. For calculus, there were eleven operations, with one fatal case from suppression of urine and uremic coma; three of these cases were complicated by prostatic tumor. The calculi varied in size from the very smallest up to two inches in diameter, and from a single calculus to more than a hundred small soft stones. For removal of foreign body, there were two cases, one a piece of metal catheter, the other a large, stiff hair-pin. There were also two cases of exploratory cystotomy. The technique of operation is given in minute detail.

L.

Value of Antiseptic Soaps

Curzio (*La Settimana Medica*, No. 30, 1897) has made an experimental study to ascertain the value of the so-called antiseptic soaps as to their aseptic and antiseptic properties.

He dissolved in sterilized distilled water the superficial and the inner parts of the soaps separately, and inoculated them into nutritive media (agar-gelatin). Besides he treated the pure cultures of Staphylococcus pyogenes aureus with solutions of the said soaps, with the view of studying the change in the vitality of the micro-organism.

He chose the pyogenes aureus because it is one of the most common and most resistant micro-organisms, and because of the ease with which the morphology may be studied.

He concludes as follows:

1. Sublimated (1 per cent.) soft soap is not aseptic and has not any antiseptic value, even if the experiment lasts for twenty-four hours.
2. Sublimated (1 per cent.) hard soap has very little antiseptic value, as it necessitates a continuous action of twenty-four hours to prevent the development of the pyogenes aureus.
3. Carbolic acid (10 per cent.) soap shows less aseptic properties and no antiseptic action at all.
4. Salicylic acid (3 per cent.) and boric acid (5 per cent.) soaps are aseptic in the true sense of the word. As to their antiseptic value, both have great power (the boric acid soap being less so), and they prevent the development of the micro-organisms after a few minutes.

Carbolic and bichloride of mercury lose a great amount of their antiseptic power in contact with the compounds of the soaps, so in practice salicylic and boracic soaps are better. But, if not for surgical purposes, i. e., in dermatology, especially when they are used for a long time, all of them may be employed with benefit.

W.

Laparotomy in General Peritonitis, Following Perforation Due to Typhoid Fever

In an important paper in the Russian *Arch. of Surg.* (No. VII, 1897), Drs. Suesselewitsh and Vanach give their conclusions arrived at from observations on sixty-five cases, as follows:

1. Laparotomy is unquestionably indicated in all cases of general peritonitis, following a perforation in the course of typhoid fever.
2. In recent cases—when no more than twenty-four hours have elapsed from the moment of perforation—the operation should be done immediately if there is hope that the patient will survive the operation.
3. In older cases operate only when there is general peritonitis. In circumscribed peritonitis it is advisable to wait.
4. General deep anesthesia is contraindicated; it is best to inject locally, where the incision is to be made, a 2-per-cent. solution of cocain [in our opinion, Schleich's method of infiltration-anesthesia would be much more preferable.—W. T. R.], and to use a small quantity of chloroform, sufficient to control the action of the abdominal walls.
5. Contrary to the opinion of other authors, washing of the peritoneal cavity is not contraindicated. The liquid to be employed is of no importance, as it acts mechanically by washing away the pus, and stimulates the patient by the virtue of its temperature.
6. Intestinal adhesions should not be torn, except in order to empty an encysted abscess, and then it must be done with great care and gentleness.
7. The perforation should be found and sutured at once by one method or another.
8. Where there is a great number of ulcerations, the intestine should be resected. In one case Vanach resected twelve inches of the small intestine.

M.

Preventive Temporary Tamponade

Dr. Carl Lauenstein, in *Medicine*, advocates the plugging of fistulæ of the stomach, urinary bladder, gall-bladder, and other hollow viscera before operating, with a view to preventing infection and to making the artificial tube more easily palpable. He also closes the upper part of the rectum by plugging before proceeding to operate about the anus.

C.

EYE, EAR, NOSE, AND THROAT

John C. Lester, M.D., Heber N Hoople, M.D.,
Vincent Gomez, M.D., Wm. C. Braislin, M.D.

Attempt at Classification of Infectious Conjunctivitis

H. Coppez (Brussells), in *Annales d'Oculistique* (Tome XVII, p. 57, 1897), says: Two classifications now obtain: The old one, based on the anatomy and symptomatology; the new one, on etiological and bacteriological data. The former had the advantage of giving the clinical picture of the disease as well as its probable origin, complications, and treatment. A new one will be practicable that will also be more scientific.

The microbes which are known to cause conjunctivitis are:

1. The gonococcus, causing (*a*) the well-known purulent conjunctivitis; (*b*) the catarrhal; (*c*) the granular; (*d*) the pseudo-membranous.
2. The bacillus of Weeks, (*a*) catarrhal, well-known; (*b*) pseudo-membranous.
3. The pneumococcus, (*a*) catarrhal; (*b*) phlyctenular; (*c*) purulent; (*d*) granular; (*e*) pseudo-membranous.
4. The staphylococcus, (*a*) catarrhal; (*b*) purulent; (*c*) phlyctenular; (*d*) pseudo-membranous.
5. The streptococcus, (*a*) catarrhal; (*b*) purulent, with buboes; (*c*) pseudo-membranous.
6. The Klebs-Loeffler, (*a*) catarrhal; (*b*) the well-known pseudo-membranous.

The purely etiological classification offers the advantage of knowing exactly the origin of the disease, of instituting a prophylactic treatment, and of having recourse to the treatment most surely indicated—sero-therapy. But it is often difficult to make the bacteriological examination of all the cases, and the patient may be cured before it is completed.

The purely anatomical classification presents the following divisions:

1. Catarrhal, from gonococcus, diplobacillus, staphylococcus, streptococcus, pneumococcus, or Klebs-Loeffler;
2. Purulent, from gono-staphylo-strepto-pneumo-coccus;
3. Granular, from gonococcus and pneumococcus.
4. Phlyctenular, from pneumococcus or staphylococcus.
5. Pseudo-membranous, from gono-staphylo-strepto-pneumo-coccus, and the bacillus of Klebs-Loeffler or of Weeks.

This division separates all the forms and permits by clinical signs of arriving at the etiology; their diagnosis is easy and the treatment may be both symptomatic and prophylactic.

The old classification is still the best, and it will be still better when the bacteriological data may be added to each particular case.

Van den Bergh prefers retaining the old classification for the clinical and therapeutic advantages.

Gonorrheal Ophthalmia

Dr. D. T. Vail, in an article titled above, thus recapitulates (*The Cincinnati Lancet-Clinic*, Vol. XXXVIII, No. 14):

1. The general practitioner should always warn his gonorrhea and leucorrhea patients of the danger of inoculating their eyes.
2. As the family physician is usually the first consulted, he has the golden opportunity which the first hours afford. He should seal the unaffected eye at once.
3. It is well to bear in mind that all cases of purulent ophthalmia are not gonorrheal; on the contrary, only a very small percentage are.
4. For diagnostic and scientific reasons, microscopical examination of the discharge should be made.
5. For the cornea to escape involvement is the great exception.

In Dr. Vail's judgment the best treatment is: (*a*) Leeching; (*b*) continuous iced applications day and night; (*c*) nitrate of silver, 2 to 4 per cent. solution, applied to the everted eyelid once or twice a day; (*d*) non-irritating gentle flushings of the eye every few minutes; (*e*) canthotomy downwards and outwards to liberate the lower lid. C.

A Case of Sympathetic Optic Neuritis

Mulder, in Westhoff's account of the tenth session of the Dutch Ophthalmological Society, cites in *Archives d'Oculistique* (Tome XVII, p. 52, 1897) a case of a young man of 18 years who, six years before, had received a piece of copper from a percussion-cap in one eye and been treated for a month for it. During the subsequent years he had suffered with violent headaches, sometimes incapacitating him for work for weeks though usually they occurred only at long intervals. In May, 1896, he noticed his sight failing in the good eye, at which time there was some pericorneal injection of the other eye. The $V=\frac{20}{80}$ in the good eye. The papilla was influenced, the vitreous clear and iris normal. Enucleation of the affected eye discovers the piece of copper. The headaches promptly disappear, the papillitis gets well, and normal vision returns in a month. H.

DERMATOLOGY AND SYPHILOLOGY

James M. Winfield, M.D., Homer E. Fraser, M.D.

What Conditions Influence the Course of Syphilis?

The Medical News, October, 1897, contains an address of Dr. Robert W. Taylor, read at the twenty-first annual meeting of the American Dermatological Association, May, 1897, a paper with the above title.

He approaches the subject by asking what is the syphilitic virus? Unfortunately we are not able at this time to answer this question in a scientific manner. Though we know nothing of the syphilitic bacterium we are, however, in possession of minute knowledge of the morbid anatomy of the initial lesion.

He excised a normal lesion four days after its appearance. The chancre appeared as a minute red erosion resembling granulation-tissue microscopically examined. There were marked changes in the condition of the blood-vessels, which consisted in the distention of the perivascular spaces, with small round cells. All vessels examined were surrounded by this mass. The point deserving attention was that in the very early primary sore the same changes in the cell-investments were found about the vessels which extended along the perivascular lymph-spaces. This shows how futile it is to excise the primary sore.

The process of syphilitic infection is one of constant growth and diffusion from the beginning. In the very first days of the existence of the chancre the poison is deeply rooted in the subcutaneous tissue; it is in a most active state and progresses along the course of the vessels until it reaches the body, and then infects the whole economy. In consequence it is very certain that excision of the chancre will not cause the abortion of the disease.

Syphilis, unlike many diseases of microbic origin, does not depend upon the activity or quantity of the virus received. Many things contribute to its malignancy or non-malignancy. A strong, vigorous person may have a slight attack, while the same infective media will make the disease severe in an anemic or run-down subject.

Many tissues are more resistant to the poisons than others. It is fortunate for the human race that syphilis is contracted by young men in whom the vital processes are active and whose health, as a rule, is good. Such patients are capable of withstanding attacks of various diseases, but some are more resistant than others. According to his observation, it may be said that syphilis is much less severe to-day than it was thirty years ago. We no longer see in the large syphilitic clinics so many cases of malignant or precocious syphilis, nor do we meet with the more profound and grave tertiary lesions by any means as frequently as we did a quarter of a century ago. This diminution in the severity of the disease is largely due to our improved methods of treatment, to an improved sanitary condition, and to the greater attention paid to cleanliness and antisepsis. But further than this there exists to-day in the tissues of many individuals a greater resistance to syphilitic infection than was possessed years ago. In other words, in many people a moderate condition of immunity against syphilis exists, which is due to the changes in the tissues and the blood, induced by syphilis in their more or less remote ancestors.

S.

Some Remarks Concerning the Treatment of Leprosy

In the *Med. Times*, Oct., 1897, Dr. W. Thornton Parker publishes an article on the treatment of leprosy with non-immunized horse-blood serum. He says, in part, this agent counteracts the tuberculous destruction of the tissues; the most reliable investigations have proved that it possesses great value in mitigating morbid actions of various kinds. The serum should be taken from mature animals in robust health, without having been artificially immunized. It is advisable to prepare it with a minimum percentage of tritresol to prevent contamination. Horse-blood serum is naturally antitoxic and is antagonistic to tuberculous poisons.

Diseases like leprosy and tuberculosis owe their origin to a multiplicity of causes. The constitution of the patient has become reduced far below par, not only by his own neglect of sanitary laws, but by the carelessness or ignorance of his progenitors.

In conclusion, he calls attention to a paper by Dr. Paul Paquin, and gives instruction how the serum should be employed. Doses should be from 3 to 5 ctm. injected daily, repeated every day for three or four weeks. The serum seems to act as a most powerful tonic, the red blood-corpuscles are increased, there is no outward secondary effect except a slight rise in temperature and acceleration of pulse; all these phenomena, however, are transient. It is not claimed that this agent can act absolutely alone, but it is probably one of the most valuable therapeutics of modern medicine. S.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.,
H. P. DEFOREST, M.D., H. T. HOTCHKISS, M.D.

Sudden Death During Labor

Dr. Mary E. Hagadorn, in *South. Cal. Prac.* (Vol. XII, No. 7), reports a case of a primipara, who during the period of pregnancy was well. The urine was examined several times, but always with negative results. While the patient was in labor (bag of water having ruptured, with head causing bulging of perineum) she dropped into a refreshing sleep, when suddenly there were two stertorous respirations. The face instantly changed from a good rosy color to extreme pallor; the lips became deeply cyanosed and the ears and the entire fingers became a livid blue, the pupils minutely contracted, and the radial pulse could not be detected. There was no dyspnea, but an instantaneous cessation of respiration.

Restorative treatment was resorted to, without avail. No satisfactory autopsy was allowed, and the cause of death was not ascertained. She was delivered of a deeply cyanosed, but living boy, weighing 6½ pounds. There was no blood in the cord when it was cut. V.

Forceps-rotation in Occipito-posterior Positions of the Vertex

Dr. W. Gillespie (*Atlanta Med. and Surg. Jour.*, Oct., 1897) states that in dealing with this subject the rule laid down by Simpson should be followed, i. e.: In occiput posterior positions the mechanism of extraction of the head with forceps should be an exact imitation of the mechanism of the expulsion of the head by nature. When progress ceases, flexion being perfect, and nature does not seem able to rectify the position without exhaustion, it is the duty of the accoucheur to render assistance. The head should always be grasped by its biparietal diameter when possible. This is easily accomplished with the head low in the pelvis, but when high in the cavity it is sometimes impossible. If the head has become wedged in the cavity of the pelvis and cannot be dislodged with the hand or vectis, the author thinks it wiser to rotate with the forceps than run the risks of slipping and posterior rotation from violent traction and compression. If compelled to grasp the head irregularly, the operator should recognize the fact that the hold is necessarily insecure and that traction should be made with great care to avoid slipping of the instruments. Furthermore, if the handles be forcibly compressed in order to retain the grasp necessary for forcible traction, there is danger of posterior rotation of the occiput. The principal objection given by writers on obstetrics, as far as the child is concerned, is danger of fatally twisting the spinal cord. When the large number of cases delivered in this way by nature's unaided efforts is considered, and yet no harm results to the child, the thought presents itself why should artificial rotation, if carefully executed, be more dangerous than natural rotation? The experiments of Tarnier give positive proof that this fear is more theoretical than practical, in that when the head is twisted one-half the circumference, the shoulders being fixed, the motion does not alone occur at the atlo-axoid joint, the whole of the cervical and a portion of the dorsal vertebræ twisting spirally. The author ascribes a much more serious effect to the prolonged and severe flexion necessary for nature to successfully deliver these cases, he having met several cases of convulsions in the newborn, which he feels sure were due to cerebral apoplexy as a result of prolonged and violent flexion. L.

The Relationship of the Hydatiform Mole to the Malignant Deciduoma

Dr. Narcisse Bellin has made some careful observations of the pathological characters and clinical features of these two classes of uterine tumors, and states the relationship that exists between them very clearly in a recent article (*Gaz. Heb. de Méd. et Chir.*, 1897, n. s. II, 146). Both are due to changes in the placental or the decidual tissues, and clinically both are characterized by uterine hemorrhage, less severe, however, in the deciduoma than in the mole. The prognosis in the case of mole is fairly good, since the mass is usually expelled entire, but in the deciduoma, owing to the possibility of the early involvement of the blood-vessels, and consequent formation of metatases, it is grave.

Histologically the mole is a myxomatous degeneration of the fetal mesoderm; a local hypertrophy occurs with but little tendency to invade the adjacent structures, and with a purely secondary rôle played by the epithelial elements. It always arises primarily from the villi.

The deciduoma develops from the fetal ectoderm, and is therefore epithelial in its character. It may arise from the syncytium of a normal villus, or from syncytial remains in a mole or placental polypus. It may also develop from the fetal ectoderm while this is still in a formative state, and invagination and infolding has not as yet begun; in such a case it consists entirely of large characteristic plasmodial masses. Further study shows that those special protoplasmic masses have an especial fondness for the maternal blood-vessels, whose walls they early invade and replace, thus forming lacunæ in the circulation whose walls are lined with epithelium, an unique condition in the histology of tumor, and with its only counterpart in the history of the placenta.

In such cases myxomatous degeneration of the villi does not occur. The firm attachment of this ectoplacental growth upon the uterine wall is favored by asepsis, since the absence of micro-organisms permits the medium to remain in the best possible condition for further growth.

Intervention in the case of a mole requires simply the evacuation of the mass; with the deciduoma on the contrary, the diagnosis must be made early in the development of the mass, and the treatment must be immediate and radical if cure is to be expected. Even after a thorough extirpation of the growth, the patient should be kept under observation for many months to detect possible metastases, which are prone to occur in the lungs, the liver, and other organs. E.

A Case of Puerperal Inversion of the Uterus, with Remarks upon the Etiology

Geo. T. Harrison (*Am. Gyn. and Obstet. Jour.*, May) relates in detail an interesting case of the above. The patient, aged 33 years, was in labor with her third child. There was a narrow pelvis, and finding on his arrival that the os was well dilated but that the head was still detained at the brim, podalic version was decided upon. Under ether-anesthesia, a living child was delivered in a few minutes. Subsequently to delivery the uterus showed no disposition to contract, a marked condition of atony being present, even during the application of Credé's method. Efforts to stimulate the uterus to contraction were made intermittingly. After the expiration of about three-quarters of an hour, during a pause in the author's attempts at securing contraction, the woman made violent bearing-down efforts, and to his astonishment he found a complete inversion had originated. The placenta was attached firmly to the entire fundus. The whole mass lay in front of the external genitalia. The hemorrhage was not of a profuse character, and as the woman was still partially under the influence of the ether, there was no shock. The placenta was peeled off by digital manipulation, and the uterus immediately reinverted. As the ring of contraction was not firmly contracted, the author had no difficulty, after depressing the fundus, in carrying it upward until the whole organ was restored to its normal condition. Ergot was administered by hypodermic injection over the symphysis and good contraction secured. The woman recovered without a bad symptom. Commenting upon the foregoing, Harrison states that inversion of the uterus, post-partum, is of rare occurrence. Referring to statistics, it is shown that in the St. Petersburg Lying-in Institution, in a period of fifty-four years, during which two hundred thousand births occurred, not a single case of inversion was observed. The Dublin Rotunda Hospital gives one case of inversion in one hundred and ninety thousand births. The genesis of puerperal inversion is not only of vast importance in the interest of scientific truth but also in a reverberative sense, as affecting the skill of the obstetrician. In most works on obstetrics external violence is invoked to a great degree as a factor. W. Beckman, however, has carefully studied one hundred cases of inversion, and attained to the conviction that inversions occur most frequently in primiparæ and young persons, and that violent manipulations rarely play the most important rôle in the etiology; that, on the contrary, more or less constant conditions existing in the act of birth itself bring about the puerperal inversions in the majority of cases. The necessary and essential condition precedent to the origin of a puerperal inversion is the relaxation or flabbiness of the just accouched uterine body in its upper part and an open os. Two modes of origin must be discriminated: the one evoked spontaneously, and the other by traction on the umbilical cord. In the genesis of inversion the attachment, more or less firm, of the placenta plays a conspicuous part. So far as traction on the cord is a factor in the origin of inversion, it may now be considered as demonstrated that this is only possible when there is complete atony and the placenta quite firmly attached. When the placenta is partially detached and there is a condition of complete atony, the weight of the placenta may be considerably increased by the blood-accumulations behind it, and consequently the atonic part of the uterus, to which the placenta was attached, may be drawn after it and thus a beginning inversion caused. The increased action of the abdominal muscles in bearing-down efforts favors the origin of inversion if there are no uterine contractions. L.

BACTERIOLOGY AND PATHOLOGY

SMITH ELY JELLIFFE, M.D., JOSEPH P. WINSTON, M.D.
HERMAN B SHEFFIELD, M.D., L. SCHÖNEY, M.D.

Increase of Eosinophilic Cells in Trichinosis

Two cases of trichinosis were treated at the Johns Hopkins Hospital during the past year, and while they were under observation a new symptom was noticed that may be of value in the diagnosis of the disease. Thayer reported the cases at the Moscow International Medical Congress (*Centralblatt für innere Medicin*, Vol. 18, No. 36, p. 947).

The first case showed all the clinical symptoms, and trichinæ were found in the biceps muscle. Examination of the blood showed 4,232,000 red blood-cells, and 16,500 white blood-cells. Of the latter 5 per cent. were small mononucleated cells, 7 per cent. large mononucleated, 50 per cent. were polymorphous neutrophiles, and 38 per cent. were eosinophiles. The number of leucocytes varied from 13,000 to 35,000 during the disease; the eosinophiles between 38 per cent. and 68 per cent. (one month later).

In the second case the possibility of tricninosis was first suggested by the striking increase of eosinophilic cells which was noticed in the hemanalysis. Five million hemacytes were present, and 13,000 leucocytes: 11 per cent. small mononuclear cells, 5 per cent. large mononuclear, 37 per cent. polynuclear neutrophiles, and 47 per cent. eosinophiles. Subsequent examination confirmed the diagnosis by finding trichinæ in the muscles.

In both cases the polynuclear neutrophiles were uniformly diminished. E.

The Micrococcus Ghadiallii

According to the *Brit. Med. Jour.* the Micrococcus Ghadiallii was discovered by Dr. Ghadially, the assistant to Professor Hankin in the Agra laboratory. A description of its properties has been published in the report of the Chemical Examiner and Bacteriologist to the Northwest Provinces and Oudh (Government Press, Allahabad) for 1896. This microbe has been found to have the power of slowly destroying the enteric microbe in water and milk, and to a less extent in bouillon. It seems also to have some power of destroying the Bacillus coli in water. In one experiment the four-thousandth part of an agar-agar culture of this microbe was added to half a liter of unsterilized lake water that contained the Bacillus coli. In eight days the latter microbe had died out. In a similar experiment one-hundredth part of a culture was used, and the Bacillus coli could no longer be found after twenty-four hours. But in another experiment in which only the fifty-thousandth part of a culture was added to the same culture of water the Bacillus coli could still be found after fourteen days. It was observed that the enteric microbe in water and milk died out within twenty-four hours if the latter were inoculated with the Micrococcus Ghadiallii. Pains were taken in these experiments to acclimatize the enteric microbes to growing in these media before adding the Micrococcus Ghadiallii, and in each case sufficient control-observations appear to have been made.

The suggestion is put forward that this microbe might be used for freeing infected water-supplies from the enteric bacillus. The discoverer swallowed large quantities without ill effects, but no proof exists that they have any therapeutic value.

B.

Chemical Bacteriology

Under the name Proteus vulgaris, says the *Brit. Med. Jour.*, for Aug. 21, 1897, are included a large number of microbes, differing from each other in many points, but all having the same general characteristics. It has recently been suggested by MM. Lannelongue and Achart that a distinguishing character might possibly be obtained by studying the effects of the individual organism from a chemical point of view.

Acting on this suggestion, Dr. Gaillard, working in Lannelongue's laboratory, has, in a recently published thesis, given the first results of his investigations. The author has studied with great care the products formed by growing the various organisms in standard broth. To this broth was added calcium carbonate with the object of fixing any acids formed, with the addition in various experiments of glucose, saccharose, glycerin, dextrin, etc. In each case the products of metabolic activity were carefully investigated. The principal differences are conveniently given in a table. This is the kind of bacteriological work very much needed at the present time. Not until we know more about the chemical activity of even the commonest and most ubiquitous bacteria can we say that bacteriology is an exact science. Not until biological chemistry is placed on a firm basis can physiological processes be understood, and on this rests the whole of medicine.

B.

THERAPEUTICS AND PHARMACOLOGY

WILLIAM FANKHAUSER, M.D., W. J. ROBINSON, M.D., DAVID M. STÄBLER, M.D.

Koch's New Tuberculin

Regarding the efficacy of this new product, M. E. Maragliano says (*La Tribune méd.*, 2d Series, No. 24, p. 477) he injected the new tuberculin in three cases of tuberculosis. In each case there was increase of fever following injection, which lasted from two to three days. The injection caused physical disturbances in portions of the lung where there had been no trouble prior to the use of tuberculin. In healthy guinea-pigs as well as in the tuberculous ones, the injections cause rise of temperature. In using the same dose of the old as of the new tuberculin, all the animals, whether healthy or tuberculous, that received it, presented the same reaction. Microscopic examination of the product, which was turbid, showed the presence of bacteria and of yeasts.

M. Maragliano thinks that the difference, claimed by M. Koch, between the old and the new product, does not exist in reality, and that the new tuberculin is inferior to the old one. T.

Mercury Pyoctanate

La Méd. mod. (VIII, No. 19) gives the following directions: a solution of mercuric chloride and ammonium chloride is treated with a solution of pyoctanin; a precipitate is obtained containing about 55 per cent. of mercury. This salt is employed in a ½- to 1-per-cent. solution for favus and chronic gonorrhea. It may also be used instead of iodoform and in the treatment of severe burns. A gauze may be prepared by saturating 100 parts of gauze in 60 parts of a solution containing 1 part of corrosive sublimate and 5 parts of ammonium chloride, drying, then wetting with a ½-per-cent. solution of pyoctanin and again drying. M.

Tannalbin in the Treatment of Children

Dr. T. G. Rey, of Aachen (*Deutsche med. Woch.*, XXIII, p. 46), has used tannalbin in pediatrics for some time, and now records the results of the observations made. He used the remedy in some sixty-eight cases of diarrhea, among which were thirty-three cases of cholera infantum, sixteen cases of acute catarrh of the small intestines, five cases of chronic catarrh of the small intestines, complicated by a slight trouble of the larger intestinee, and twelve cases of acute catarrh of the large intestine (enteritis follicularis). It was used besides in a number of cases of chronic catarrh of the large intestine, complicated with obstinate constipation and secondary anemia.

In all these cases the diet was rigorously regulated, and the tannalbin given in doses of 0.3 to 0.6 gme., according to the age, three or four times daily. During the first day's treatment, the doses were given hourly, as a rule. The tannalbin was best given suspended in syrup, honey, etc.; and its constipating action in all cases of cholera infantum was decided; and even in the graver cases, in which the powder was apparently vomited up again, its hourly exhibition soon checked the vomiting as well as the diarrhea. In these cases, nourishment during the first twenty-four hours was absolutely prohibited, the children receiving only a tablespoonful of cold water, with from two to five drops of cognac, half-hourly.

Besides its constipating power, tannalbin is also very valuable on account of its ability to reduce the secretions of mucus in all parts of the intestines, the small as well as the large, to the normal amount.

The writer states that the most notable results are those obtained in the acute and chronic catarrhs of the mucous membranes of the large intestines. The painful tenesmus that, in acute cases, compels children to cry and force, as well as to frequently cause defecation every five minutes, is very rapidly controlled. In medium cases three or four days suffice to render the dejections almost normal; and the febrile conditions that formerly lasted weeks, also disappeared in the same time. The writer advises, however, that a too early suspension of the remedy is risky, since traces of the ailment may still remain and cause further trouble. F.

Sulphur in Septic and Tuberculous Ulcers

Dr. Miller, of Edinburgh (*Practitioner*, Feb., 1897), praises very highly the application of sulphur in obstinate or recurrent ulcers and abscesses. Sulphur is non-poisonous, and when applied to fresh surfaces there are formed sulphuretted hydrogen, sulphurous and sulphuric acids, and it is these three products that act on the tissues. Being in *statu nascendi* their bactericidal action is especially lasting and energetic. In fresh wounds and ulcers the sulphur is applied as a fine powder, in septic and tuberculous abscesses a 10-per-cent. glycerin-emulsion is injected. The burning following the application of sulphur can be prevented by the addition of cocaine. The author says that under the sulphur treatment ulcers and abscesses that have before resisted every kind of treatment for months, frequently heal within a week. Another of the advantages of sulphur is its cheapness.

M.

Periploca Græca as a Cardiac Stimulant

Dr. Bourginsky (*Jour. de Méd. de Paris*, March 21, 1897) reports that this asclepiadaceous plant—indigenous to Greece, western Asia, and southern Europe, and naturalized in the western part of the State of New York, and known by the common names of climbing dog's-bane, milk-vine, silk-vine, Syrian silk-plant, and Virginian silk—contains a glucoside, periplocin, which he regards as an isomer or polymer of Schmiedeberg's digitalin. From experiments on frogs he concludes that the plant contains a heart-poison that acts like the other cardiacs on the function of the heart. In large doses it stimulates also the respiratory and vomiting centers. Its antagonist is atropine. The fluid extract may be given in doses of from 5 to 10 drops, and periplocin in doses of 1-30 grn.

F.

Eucaine Physiologically

A study of the physiological action of eucaine shows, according to Prof. Pouchet (*Med. Week*, V, p. 50), that the toxic equivalent of eucaine is almost the same as that of cocaine. In addition, eucaine may determine toxic disturbances, inducing death without any prodromal stage. Its action on the heart is, if not stronger, at any rate as strong as that of cocaine. The injection into a frog of 2 milligme. of eucaine determined a considerable reduction in the number of heart-beats, with arhythmia, whereas the same dose of cocaine produced no such effect. As an anesthetic, this substance must therefore be considered as dangerous.

From a clinical point of view, Dr. Reclus, investigating the effects of eucaine, has ascertained that, in equal doses, the anesthetic properties of eucaine are much less than those of cocaine, and it ought not to be employed in performing a grave operation.

F.

An Organic Salicylate Compound in Subacute Rheumatism and Gout

Dr. Geo. Howard Thompson calls attention (*Amer. Jour. Surg. and Gyn.*, July, 1897) to the value of colchi-sal in the treatment of the above affections. This preparation comes in liquid encapsulated forms which are hermetically sealed and contain the equivalent of three minims of pure methyl salicylate and 1-250 grn. of pure colchicin, the proportion being therapeutically ideal. Both these remedies are diuretic, antipyretic, and antirheumatic. To show the energetic action of these agents in these and allied conditions the author cites various cases.

The first case mentioned pertains to a man 30 years old who had had occasional attacks of inflammatory rheumatism. One month before consulting the writer he had had an attack involving all the joints of the arms and legs. In spite of treatment received at a hospital for three weeks, he thought his illness was not improving. There was considerable swelling in the left wrist, with extreme soreness to the touch. Dr. T. prescribed colchi-sal capsules, one every hour in water, and directed exercise with passive motion to the wrist. This treatment was followed out consistently for about three weeks. At the end of the first week the swelling and pain had all gone, at the end of the second week the joints had lost their stiffness in great measure, and at the end of the third week he was apparently cured, being free from symptoms. The capsules were continued for some weeks, two before each meal and on retiring, with great benefit, as the patient gained twelve pounds in the following six weeks.

The second case was that of a woman, aged 24, who, one month after recovering from a septic endometritis following a miscarriage, was taken with a chill and fever, 104°, pain in the joints, especially marked in the right hip and left knee. The patient's father was subject to recurrences of gout. Two capsules of colchi-sal were given every two hours. Relief was afforded within twenty-four hours, and in three days the patient was able to be about, and was discharged cured at the end of two weeks. She has not had any relapse.

The next case mentioned was the father of the patient just referred to. He was a gouty subject, aged 55 years. The writer saw him during an acute attack, when the patient was suffering excruciating agony. Colchi-sal capsules were ordered, three to be taken every two hours until the pain was relieved, and every two hours thereafter. Ten grn. of sodium bicarbonate were taken in the intervals between the colchi-sal periods. After three doses of colchi-sal the patient complained of some intestinal disturbance, which was relieved by a free action of the bowels. Copious diuresis now came on. and the pain in the toes subsided. But one capsule was now given at intervals of two hours. At the end of three days the patient was free from pain, and he only took two capsules every four hours. As the patient had recurrent attacks at intervals of two weeks he will continue the use of the capsules indefinitely, in addition to which tablets and arsenious acid, 1-20 grn., after each meal were prescribed, and patient directed to drink copiously of pure water. He has not had any attack since.

Another case cited occurred in a woman, aged 60, the subject of rheumatic pains for years, but who had never had an attack of acute inflammatory rheumatism. She had a rapid and weak heart; temperature 99°; urine reddish-yellow, S. G. 1032 acid; no albumen or sugar, but highly phosphatic. This woman was put on colchi-sal, together with a suitable alkaline table-water. Ten days later she was greatly improved. The joints were free from soreness, she felt stronger, and was not so short of breath. Her appetite was good and her bowels regular. The examination of urine showed color yellow, neutral, S. G., 1022, no albumen nor sugar, and less phosphates. She continued the colchi-sal for six weeks and up to June 1 she had no evidence of rheumatism.

The wine of colchicum frequently nauseates, even in the therapeutic dose of ten drops, and occasionally causes syncope. The author has yet to see any such effects from the use of colchi-sal. B.

Administration of Iodoform in Phthisis

E. De Reusi (*Sem. méd.*, September 29, 1897) recommends:

Iodoform	2 grn.
Tannin	4 grn.

M. ft. Pulv. No. xl. Two to four powders a day.

In patients with a tendency to constipation:

Iodoform	2 grn.
Naphthalin	2 to 4 grn.

M. ft. Pulv. No. xl. Two to four powders a day.

Iodterpin

In a paper read before the International Congress of Medicine at Moscow, Russia, Dr. A. Lieven (*Pharm. Post*, XXX, p. 433) stated that he had introduced a new remedy under the name of "Iodterpin." It occurs in the form of a dark-brown fluid, and is described as a direct combination of terpin with iodine. The preparation has a terebinthinous odor, and a specific gravity of 1.190 at 15° C., and its boiling-point is between 165° and 175° C. Iodterpin, $C_{10}H_{16}I$, is easily soluble in ether, benzol, petroleum, benzin, and chloroform, and is soluble to the extent of 10 per cent. in absolute alcohol, yielding a neutral solution. The preparation is easily absorbed by the skin, upon which it exerts no disturbing effects. It is miscible in all proportions with fats and vaselin.

Iodterpin is recommended in all cases where powerful disinfection is desired, particularly in surgery, as a substitute for iodoform, and in therapy instead of tincture of iodine, as the preparation contains 50 per cent. of iodine. For dusting on wounds, a 1- to 20-per-cent. mixture of it with kaolin is recommended.

Methylene-blue in the Treatment of Spermatic Neuralgia

Dr. J. Domino (*Med. Week*, V, p. 516) has succeeded in rapidly curing three cases of neuralgia of the spermatic plexus by the internal administration of methylene-blue.

In the first case, the neuralgia had existed for two weeks, the pain being so acute that morphine-injections only gave a very few hours' rest. The necessity of castration had already been discussed, when it occurred to Dr. Domino to try the administration of 10 ctg. of methylene-blue every other hour. The pain was already better after the third dose, and disappeared entirely after the fifth. On the following day the patient was able to resume his ordinary occupations. He had taken altogether 1.2 gme. (18 grn.) of methylene-blue and never suffered any relapse.

In the two other cases the neuralgia was not so severe as in the first case. It rapidly yielded under the use of methylene-blue, and did not recur in either case.

The drug determined no ill effects, except ephemeral dysuria on one occasion.

Silver Sulphocarbolate

Silver sulphocarbolate has been produced by Zanaradi (*Pharm. Ztg.*, XLII, p. 597) by double decomposition between silver carbonate and sulphocarbolic (phenosulphonic) acid. It occurs in the form of white, prismatic needles, containing 28.29 per cent. of silver, and is sensitive to light. It is intended for use as an antiseptic, similarly to itrol, or argonin, and has thus far been employed in the treatment of eye diseases and wounds.

Pyraloxin

Pyraloxin appears to be not at all, or but slightly, toxic. Though the author has employed it in extensive applications which were frequently renewed, he has never observed symptoms of intoxication, nor darkening of the urine. He has also been able to make intra-urethral injections of a 0.5- to a 1-per-cent. solution of oxidized pyrogallol, without any inconvenience, in various cases of blennorrhagia, and has even ingested the remedy in the form of keratinized pills, or in lemonade, in doses of 0.05 to 1 gme. daily, and that during several consecutive months.

Pyraloxin offers still another advantage, in being compatible with medicaments, such as zinc oxide, sulphur, and lime-water, that are incompatible with ordinary pyrogallol.

The following, as an example of the combinations of medicaments possible, is the formula of an ointment prescribed by Dr. Unna in seborrheic eczema and in pityriasis of the scalp:

Lanolin	10 gme.
Lime-water	10 gme.
Chamomile-water	10 gme.
Ointment Zinc Oxide	10 gme.
Precipitated Sulphur	2 gme.
Pyraloxin	0.4 gme.

Various Catarrhal Conditions Treated with Guaiacol Carbonate (Duotal)

Dr. Nied, Physician in Chief to St. Elizabeth's Hospital, Vienna, has used (*Allg. Wien. med. Zeit.*, June 1, 1897) guaiacol carbonate (duotal) in a variety of cases presenting catarrhal affections of various organs. The author quotes Dr. Hock as emphasizing (*Wiener med. Blätter*, 1896, No. 49) the value of creosotal,* not only in cases of pronounced pulmonary disease, but also in the treatment of catarrhs that are so frequent after whooping-cough and measles, and which are frequently the prodromata or predisposing causes of tuberculosis. Creosotal is especially useful in the treatment of these cases, and Dr. Hock recommends the following formula:

Creosotal	3–5.0	(¾ to 1¼ dr.)
Ol. Morrhuæ	100.0	(3⅓ oz.)
Saccharini	0.05	(¾ grn.)

To older children, who refused to take cod-liver oil, the creosotal was given in alcoholic solution and in drops, or emulsified by drops in sugar-water. The dosage in children, under 1 year old, was 0.15 gme. (2¼ grn.), gradually increasing to 0.5 gme. (7½ grn.), or from a teaspoonful of 3 per cent. creosotal-cod-liver oil to two tablespoonfuls of a 5-per-cent. solution. Older children took from 0.5 gme. (7½ grn.) to 1.5 gme. (22½ grn.) daily.

Dr Nied experimented upon adults with guaiacol carbonate, which has an analogous action to that of creosote carbonate. Twelve female patients, their ages ranging from 23 to 81 years, who were suffering from bronchitis, complicated in some cases with influenza, were treated with this remedy. In accordance with the severity of the attack the following doses were employed:

First day, morning and evening, 0.5 gme. (7½ grn.) of guaiacol carbonate.

Second and succeeding days, 1 gme. (15 grn.) twice daily. Or first and second days, morning and evenings, 1 gme. (15 grn.).

Third and succeeding days, 1.5 gme. (22½ grn.) twice daily.

Or, first day, 1 gme. (15 grn.) twice.

Second day, 1.5 gme. (22½ grn.) twice.

Third and succeeding days, 2 gme. (30 grn.) twice a day.

The effect of the remedy was usually apparent upon the second day, and latest upon the fourth; it showed itself by a reappearance of the appetite, and a loosening of the mucus in the tubes. The expectoration ceased in from fourteen to twenty days. In from two to three weeks the patients were discharged cured.

Five cases of acute bronchitis are then referred to in detail, in all of which the employment of guaiacol carbonate effected a speedy cure. B.

Epidermin

"Epidermin" is the name recently given by Valentiner and Schwarz (*Pharm. Ztg.*, XLII, p. 546) to a mixture of fluorxylol 1 part and difluordiphenyl 5 parts. It occurs in the form of an ointment, and has been recommended as a dermatological antiseptic.

This new article must not be confounded with the epidermin of Rothriegel, which is also an ointment base, but is composed of equal parts white wax, glycerin, mucilage acacia, and water.

Ferripton

E. A. Kunze (*Pharm. Ztg.*, XLII, p. 564) describes this as a concentrated iron preparation, that may be injected subcutaneously, or taken per os, as desired. The preparation is free from acidity, does not attack the teeth, and is free from odor and taste when it is taken in diluted form. It is stated that ferripton has been employed with good results by Dr. Schüler in various forms of anemia, debility, etc.

Euphthalmin

The name of "Euphthalmin" has been given to a new mydriatic (*Beilag. d. Deut. med. Wochenschr.*, XXIII, p. 186), obtained from amygdalic acid. In from twenty to thirty minutes after the instillation of 2 or 3 drops of a 2-per-cent solution mydriasis sets in, which disappears completely in from two to three hours. No pain or other disagreeable by-effect occurs, and the accommodation remains uninfluenced. The remedy is specially useful in ophthalmoscopic examinations where the constricted pupil renders such an examination difficult, and where but an ephemeral mydrasis without effect on the accommodation is desired.

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* As is well known, guaiacol is the chief constituent of creosote. The value of a specimen of creosote depends upon the amount of guaiacol that it contains. Creosotal is a creosote that, by reason of its combination with carbonic acid, is transformed into a neutral, non-poisonous non-caustic body, without the loss of any of its therapeutic properties. Guaiacol carbonate is guaiacol combined with carbonic acid in the same way.

Protektin

A new adjunct to antiseptic surgery has been prepared by Evans and Pistor, of Cassel. It consists (*Pharm. Centralh.*, XXXVIII, p. 623) of tissue-paper coated on one side with an adhesive rubber mixture. The paper is preserved by spreading gauze on the adhesive surface, when the whole may be sterilized and kept ready for use. The prepared sterilized paper is applied in pieces of suitable size to the place or vicinity of the part to be operated upon. After the operation the paper can easily be removed and burned.

Savonal

A new soap has been introduced by Müller and Grube (*Pharm. Ztg.*, XLII, p. 547), that is intended as a vehicle for the application of various remedies. It is said to be prepared by first making an olive-oil potassa-soap spirit, neutralizing with chemically pure oleic acid, and evaporating off the alcohol. The soap-mass thus obtained is soluble in water, alcohol, or glycerin, with which it forms clear solutions that are miscible with these solvents.

Rosacea Ointment

Dr. Jadassohn recommends the following (*Méd. moderne*):

Ichthyol	1 to 5 gme.	(15 to 75 grn.)
Resorcin	1 to 3 gme.	(15 to 45 grn.)
Lanolin	25 gme.	(6½ dr.)
Olive-oil	10 gme.	(2½ fl. dr.)
Distilled Water to make	45 gme.	(1½ oz.)

The proportions of ichthyol and resorcin may be gradually increased according to the tolerance of the patient.

Brief Notes on New Remedies

ANTIRHEUMATIN is described by Valentiner and Schwarz (*Pharm. Ztg.*, XLII, p. 546) as a mixture of fluorphenetol one part, and difluordiphenyl 5 parts. It occurs in the form of an ointment, and is recommended as a remedy in the treatment of rheumatism, lumbago, and influenza.

ANTITUSSIN, also known as difluordiphenyl, is recommended by Valentiner and Schwarz (*Pharm. Ztg.*, XLII, p. 546) in the treatment of whooping-cough. The writers have observed that various organic fluorine compounds, when used externally, exert a calmative and hypnotic power. Antitussin is employed in the form of an ointment; further details are wanting.

ETHYLAMINE URATE.—Ethylamine, $H_2H_5NH_2$, is, as is well known, a powerful gaseous base of ammoniacal odor; but with uric acid it yields a salt easily soluble in cold water. Dr. C. Goldschmidt (*Pharm. Ztg.*, p. 546) believes that it may be advantageously used in the treatment of gout and vesical calculi, judging from therapeutic tests made with it. Dose-statements are wanting.

In Painful Affections of the Genito-Urinary Organs

For the relief of painful affections of the bladder, prostate, or urethra, the following has proved efficacious (*Med. News*, LXXI):

Morphine Hydrochlorate	2 grn.	(0.13 gme.)
Atropine Sulphate	⅙ grn.	(0.01 gme.)
Distilled Water	3 fl. oz.	(90 gme.)

From 30 to 80 drops of this solution are injected into the rectum. In addition, should fever be prevalent, the following is recommended:

Cocaine	14 grn.	(0.9 gme.)
Antipyrin	2½ dr.	(10 gme.)
Sodium Salicylate	2½ dr.	(10 gme.)
Distilled Water	3 fl. oz.	(90 gme.)

Inject 80 drops per rectum three times daily.

Ichthyol in Smallpox

Dr. S. Kolbasenko (*Therap. Wochenschr.*, IV, p. 720) has used ichthyol with marked success in eighteen cases of smallpox. The skin was anointed three times daily with an ointment made as follows, and which was employed up to the stage of desiccation:

Ichthyol	10 parts
Expressed Oil Almonds	60 parts
Lanolin	20 parts

The itching and painfulness of the sections of the skin affected were decidedly relieved. The fever at the purulent stages was below 38.5° C., the secretion of pus was less, and the stage of exsiccation and desiccation was reduced in duration by almost one-half. No formation of abscesses was ever observed, and even in children no pernicious by-effects of any description occurred.

Salol Hypodermically in Rheumatic Affections

Bozzolo recommends (*Practitioner*, LIX, p. 510) the hypodermic injection of from 2 to 4 c.c. (½ to 1 fl. dr.) daily of the following solution in the treatment of rheumatic affections:

Salol	1 gme.	(15 grn.)
Chloroform	1 gme.	(15 grn.)
Sterilized Oil Almonds	3 gme.	(2 fl. dr.)

REVIEWS

Pathological Technique: A Practical Manual for the pathological laboratory, by Frank Burr Mallory, A. M., M. D., Assistant Professor of Pathology, Harvard University Medical School; Assistant Pathologist to the Boston City Hospital; Pathologist to the Children's Hospital and to the Carney Hospital, and James Homer Wright, A. M., M. D., Director of the Laboratory of the Massachusetts General Hospital; Instructor in Pathology, Harvard University Medical School. With 105 illustrations. Philadelphia: W. B. Saunders, 925 Walnut Street, 1897. Price $2.50 net.

Titles have been said to be used sometimes to hide the contents of a book. Not so this one. It is true to its name and without doubt one of the best on the subject that has lately appeared. For the practical laboratory use of either beginners in pathology and bacteriology or experienced men in such work it is all that could be desired or expected from a volume of its size. Those who are engaged in places where post-mortem work has to be done will find in this book the handiest ready-reference volume to facts they need that we have ever seen. It is fully up to date, practical, concise, suggestive, and free from redundancy. The methods and formulæ described are select, the author seeking to give the choicest rather than a list that might be considered exhaustive. The illustrations are all good, but those showing microtomes and other pieces of apparatus where no lesson is given regarding their management or putting together might better have been left out and the space devoted to better purpose. This is an error, however, that belongs to almost every illustrated book that appears. If the reader happens to be in possession of that special piece of apparatus he does not need to see a picture of it. If he has another kind he does not care to have his books show something different unless it also shows him wherein that one is better than his own. There are very few such pictures in this as compared with the average illustrated text-book. Their scarcity rather than their profuseness suggested the advantage of their entire absence. The typography, binding and paper are first-class.

Tuberculosis of the Genito-Urinary Organs, Male and Female.—By N. Senn, M.D., PH.D., LL.D., Professor of Practical Surgery and Clinical Surgery, Rush Medical College, Chicago. Illustrated. 317 pages. Philadelphia: W. B. Saunders. 1897.

Of late years the literature on the subject of genito-urinary tuberculosis has become a very extensive one, but the available information has been so fragmentary and so scattered, that Dr. Senn has performed a distinctly useful task in systematizing this knowledge and incorporating it in the form of a special treatise. Aside from the author's clinical experience, the book presents nothing new or original, either on the pathology of the subject, diagnosis, or treatment, but it does form a correct and up-to-date résumé of all that has been done in those lines in this country and in Europe. The work is divided into eleven chapters or parts. Parts I and II treat of tuberculosis of the male genital organs; part III contains general remarks on the pathology of tuberculosis of the female generative organs; parts IV to VIII, inclusive, treat of tuberculosis of the vulva, vagina, uterus, Fallopian tubes and ovary, respectively; part IX treats of tuberculosis of the bladder; part X is devoted to a consideration of tuberculosis of the ureters (mention of this part is left out in the table of contents); and part XI is devoted to the kidneys. This part is the most satisfactory one, as it is also the most extensive one, occupying nearly one-third of the volume.

The description of the operation of laparonephrectomy, or the removal of the kidney by an abdominal incision, given at the end of the book, is, in our opinion, superflous. The statement that the pedicle may perhaps be reached better and tied with greater ease through an abdominal incision is not borne out by the facts. In the numerous nephrectomies that the reviewer has witnessed—many of them by the foremost renal surgeons, such as Prof. James Israel, of Berlin—when there was difficulty in tying the pedicle it was not due to the incision, but to the condition of the kidney and surrounding tissues; as for instance, when the entire organ became converted into an abscess, with only the thin capsule for a covering. An abdominal incision would not have helped the matter in any way. In one case the capsule was so thin and the tension of the fluid within so great that careful as the operator (Prof. Israel) was in handling the mass, it burst, bespattering him, the assistants, and the field of operation with pus. The wound was flushed, cauterized with the Paquelin and packed with gauze. The patient made a good recovery. Had the operation been done transperitoneally, general infectious peritonitis would surely have taken place, and who can doubt the result?

The book will be a valuable addition to the library of the surgeon, as well as of the general practitioner.

About Children: Six lectures given to the Nurses in the Training School of the Cleveland General Hospital in February, 1896. By Samuel W. Kelley, M. D., Professor of Diseases of Children in the Cleveland College of Physicians and Surgeons (Med. Dept. Ohio Wesleyan Univ.); Pediatrist to the Cleveland General Hospital; Consulting Physician to the Cleveland City Hospital; President, 1896 and 1897, Ohio State Pediatric Society; Editor *Cleveland Medical Gazette*. 180 pages. Price, in buckram, postpaid, $1.25 net. Cleveland: The Medical Gazette Publishing Company, 1897.

This is an instructive little book, being replete with information for the general practitioner as well as for the nurse, it laying no claim to being a complete treatise. The author proceeds to point out many peculiarities of the anatomy in infancy and childhood. Mention is made of the fact that the skull is so yielding that it may grow one-sided if the infant be allowed to lie too much on one side, and that the edges of the bones of the skull may be made to overlap where they meet, the occipital especially being pressed in between the two parietals in a way to cause convulsions (Marion-Sims), the infant lying upon its back. The approximate capacity of the stomach at various months is happily brought out by diagrams. The consideration of both growth and development is of much interest, particularly as to the development of the child's mind. The chapter on symptoms and their interpretation is certainly an instructive one, the author also entering fully into the preparation and care of the sick-room in contagious and infectious fevers. The final chapter is devoted to "sterilizing," "Pasteurizing" and "modifying" milk, and artificial feeding, with general remarks upon the dispositions, habits, and management of children.

CORRESPONDENCE

Homeopathy

To the Editor of the A. M.-S. BULLETIN:

At the risk of exhausting your patience and that of your readers by prolonging the discussion on Homeopathy, I feel "moved" to reply to some of the remarks of Dr. Carrington in your issue of November 25. In the first place let me say, once for all, that though we honor the name and labors of Hahnemann as the father and founder of homeopathy, we do not (excepting a very small number of the most ultra stripe) accept him as "inspired" or his teachings as in any way binding or final. Hahnemann was a scholar and thinker, but it would be the height of absurdity to accept the pathology of a century ago or to suppose that we have not added much in that time in every direction to what he had learned. There may be a few in our ranks who claim to be Hahnemannites, and hold that medical science commenced and ended with what he taught; but as a school we are emphatically progressive and have no sympathy with such views. We do not "bind on [our] frontlets the name of any man" any more than you do when you name colleges or societies or journals after men who have been eminent in the profession, and have bestowed valuable discoveries upon humanity.

We do not claim to "know it all" nor to be "infallible," nor to be "perfect." Far from it. We do claim that Hahnemann discovered a most valuable aid or law to guide us in the selection of remedies for the cure of disease. We claim the right, the privilege, and the duty to make use of this aid in our practice. Many of us—I think by far the most of us—claim also the right and duty to know all we can of all known and established means of curing or relieving the sick and to use whatever our judgment decides to be the best for each case. This is my creed, at least.

Why, then, do we "persist in being known as homeopaths?" Well, principally for two reasons. In the first place, we cannot help ourselves. Even were we to try we could no more shake off the name, without rejecting the practice, than you can avoid the title of "allopath," which you so bitterly object to. So long as you persist in rejecting or ignoring our method of giving remedies, and so long as some one else continues to use it, so long the people will have some method of designating the two kinds of doctors; and names which have once become familiar and useful to the people at large, are practically unchangeable.

The second reason is that we find it necessary in some way to let people know that we do employ the improved method of practice. There are comparatively few of us nowadays who in any way advertise the fact upon our signs or cards; but when a person comes to me and inquires, "Are you a homeopath?" I usually say, "Yes." If I have time to explain myself more fully, I say: "Yes; I am a physician and use homeopathic remedies and anything else I think for my patient's best interests." I recognize that homeopathic therapeutics has its limitations, very marked ones, too. This every reasonable person admits who knows anything about the subject. I have not room to explain this even in outline, any more than to say that curative measures with drugs must always occupy a somewhat restricted field. Mechancial, chemical, or toxic causes can hardly be removed by medicines, as a rule. And since many diseases are essentially incurable by remedies, or, indeed, by any means, and many others will require a considerable time to cure, palliative measures may often be required. What, then, do we mean by the word, "law"?

Let me say once more that as there has been, and can be no *ex cathedra* utterance which will voice the opinions of all homeopaths, I will simply claim to express my own, which I believe are in no respect peculiar. As already stated, the law applies only to the selection of medicines for curing disease and is limited accordingly. This law is that a drug will cure a disease (if it is curable), the symptoms of which are similar to those produced by the drug when given to a healthy person. I do not assert when I accept this as a law that diseases cannot be cured in any other way. I know of few persons who do assert so much. There are few things which cannot be accomplished in more ways than one. There is usually one best way, and that way is, we believe, in this case the law of "*similia*" when it is applicable. A law (according to the Century Dictionary is "A proposition which expresses the constant or regular order of certain phenomena, or the constant mode of action of a force; a general formula or rule to which all things, or all things or phenomena within the limits of a certain class or group, conform precisely and without exception." This therapeutic law, then, asserts that medicines tend to remove and cure symptoms similar to those which they will produce in the healthy system. (Mark the word "similar." This is not identical or the same.) There are a great number of natural laws, but the recognition of no one of them asumes it to be exclusive of all or any of the others. There may be other therapeutic laws, but so far as I have learned, this is the only one yet discovered and formulated. There may be a large number of phenomena not to be included under this law, but if so the law which governs them has not yet been discovered. This one law has been discovered, and we consider ourselves fortunate to be able to make use of it in guiding us by the most direct known way to the selection of the desired remedy.

If, for any reason, either for want of knowledge or skill, or because the law does not apply in a particular case, we may not be able to avail ourselves of its aid, we are still as well off as those who do not recognize it at all and can still fall back upon disjointed facts or empirical experience for resources to aid us in such emergencies. We simply have all you have and something more. If we do not employ your therapeutic resources it is because we believe we have something better, at least for that case. Now, whenever you shall reach the point—if ever you do—when you are willing to allow us the right to use whatever our knowledge and experience dictates as the best, even if all others do not accept it, and shall be willing to treat us as gentlemen, as equals, as professional brethren, and stand with us on a common plane of scientific amity, then, and probably not till then, shall we cease to "withhold from the full communion of the ('regular') saints," as our self-respect and your intolerance now requires; and there will then no longer be any medical sectarianism.

In the meantime we must be content to remain a "sect," if no more opprobrious epithets are applied to us, and shall hope that in medicine, as in religion, the belonging to a different sect will not involve the entertainment of bitterness or ill will, nor the abrogation of the golden rule in our conduct toward each other.

ALBERT G. BEEBE.

Chicago, Dec. 14.

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Editor: ROBERT G. ECCLES, M.D.

COLLABORATORS:

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EDITOR'S NOTES

The *Laryngoscope*, of St. Louis, will in January issue a foreign edition. It will be published by Messrs. John Wright & Co., of Bristol, England. It is gratifying to note this distinct step of progress by an American medical journal in invading Great Britain with its enterprise. We hope our cousins on the other side of the Atlantic will fall in love with this live Yankee product and give it good support.

Our esteemed contemporary, the *New York Medical Times* comes out in its December number with a handsome new cover in honor of its silver anniversary. The *Times* has for twenty-five years fought a good fight in its endeavor to get all medical men to cease being bigoted and illiberal, and to drop all sectarian designations. It is one of the spiciest, newsiest, and best-conducted journals in Greater New York. We admire it for the bold and consistent attitude that it assumes.

A company has been formed in Philadelphia composed of some of the trustees and professors of the several medical colleges of that city, and with a capital stock of $30,000, for the purpose of running a weekly medical journal. Dr. George M. Gould will be the editor of the new venture. All who know the doctor are fully aware of the fact that the *Philadelphia Medical Journal* will, under his care, be second to none in the United States. We wish him great success in this enterprise, and we cannot but believe that he will receive it. We shall watch earnestly for the first number.

A communication from one of our subscribers in Ohio says: "I would be very glad if you would print the medical news of the Army and Navy, as so many physicians have friends in the Medical Corps, and it would be very convenient to know where your friends are located from time to time. This would take but little space, and I hope you will entertain the suggestion." We are more than anxious to make the BULLETIN please its subscribers, and in no way can we better do so than by considering the suggestions made by them. We thank our Ohio subscriber for this suggestion, and ask others to suggest to us in what ways they think improvements could be made. How many of our readers would like to have us print Army and Navy news of the kind here indicated? If we hear from enough to make us believe such news would please any considerable number we shall hereafter make room for such information.

It has in the past been customary for the Chicago Board of Health to claim that most new moves for the protection of public health made by the New York Board had first been suggested by them. Now they seem to have changed their tactics and are pronouncing the New York attempt at isolating tuberculous patients chimerical. Commissioner Reynolds declares that no such function should be assumed by any board of health. It was hard to understand why Chicago should take such a decided stand upon this subject until the St. Louis papers came to hand, when the whole matter seemed to clear up. The St. Louis board not only commends the stand taken by New York, but claims to be the originator of it. Commissioner Starkloff declares that the Greater New York Board is but following a suggestion made by the St. Louis Board, but which the Municipal Assembly refused to act upon. What St. Louis commends Chicago must necessarily condemn.

The *Journal of Zoophily*, published in Philadelphia, Pa., and edited by ladies, is one of the American organs of the antivivisectionists. Its motto is, "He who is not actively kind is cruel." A late number undertakes to say some hard things against medical journals in general, and the AMERICAN MEDICO-SURGICAL BULLETIN in particular. Whether the ladies intended to be actively kind to us or cruel we hardly dare surmise. Certain it is they were not sparing in their invective when, after quoting a passage from one of our editorials, they said: "The ignorance of these medical gentlemen is something stupendous, unless they are guilty of the most barefaced falsehood." In our issue of April 10 of the present volume we gave evidence of the benefits of vivisection in founding sanitary science; we pointed out the utter silliness of the whole scheme of antivivisection logic; we showed their lying claims regarding the McMillan-Gallinger bill before Congress, and gave documentary evidence of the deliberate falsehood told to the committee on that bill by the antivivisectionists' star witness. In the two preceding numbers we pointed out case after case in which vivisection had led to the greatest blessings of modern civilization in all departments of life, as well as that of medicine. These ladies were blind to all this, feeling, as they did, their utter inability to meet the facts. After going over it all and failing to find a single flaw in our facts or logic bearing on the main issue, or in our charges of deliberate fraud and falsehood made against their clique, they turn thus rabidly upon us for what they conceive to be the only weak spot in all we said. Of course, the fact of their picking up this point and ignoring the rest tells its own tale, and exposes the utter baselessness of their pretenses. When the street gamin calls his fellow a falsifier and proves the fact with evidence, it is customary for the aggrieved party, in lieu of reason or defense, to exclaim triumphantly, "You're another!" In imitation of this style of warfare, the BULLETIN is informed that it is "another." We may be "another," but this, if logic to these ladies, is not to us. When we spoke of the antivivisection literature presented to the Congressional Committee as stale, and asked the vivisectionists why they did not bring forth something new, we had no thought of being snapped up in this actively kind or cruel (?) fashion. Our innocent inference, drawn from our experience and the experience of our friends, with the literature supplied to us by the antivivisectionists themselves, and from the reading of reports from Washington, was a small affair to merit so savage (actively kind?) an attack. The *Journal of Zoophily*, in this very attack, shows but a meagre list of cruelties of the past few years, even if we could believe the statements now made. The mass of their literature is thus, by themselves, acknowledged to be stale, and all that had reached us to that time certainly was. We plead guilty to the charge of ignorance in many things, and our ignorance regarding the strange kinks and tortuosities of the fanciful but frightful novelettes yclept antivivisection tracts, was certainly from the standpoint of C. E. W., quite stupendous, prior to the time we began their study in behalf of fair play, truth, and justice to the vivisectors.

PUBLISHERS' DEPARTMENT

NUTRIENT WINE OF BEEF PEPTONE

Whenever it is necessary to resort to predigested food for nourishment in an assimilable form, Armour's Nutrient Wine of Beef Peptone is indicated. Nutrient Wine is made from lean beef, predigested and sterilized, and Sherry. Each ounce of the wine contains the digestible substance of one ounce of lean beef.

ANTIKAMNIA

The January, 1894, number of *The Quarterly Journal of Inebriety*, published under the auspices of the American Association for the Study and Cure of Inebriates, Hartford, Conn., U. S. A., says through its able editor, T. D. Crothers, A. M., M. D.: "Antikamnia is one of the best remedies in influenza, and in many instances is very valuable as a mild narcotic in neuralgias from alcohol and opium excesses. We have used it with best results." *The Edinburgh Medical Journal* (Scotland) says, regarding antikamnia: "In doses of three to ten grains it appears to act as a speedy and effective antipyretic and analgesic." *The Medical Annual*, London, Eng., says: "Our attention was first called to this analgesic by an American physician whom we saw in consultation regarding one of his patients who suffered from locomotor ataxia. He told us that nothing had relieved the lightning pains so well as antikamnia, which at that time was practically unknown in England. We have since used it repeatedly for the purpose of removing pain with most satisfactory results. The average dose is only five grains, which may be repeated without fear of unpleasant symptoms."

ELECTRIC BATTERIES

A special offer, good for sixty days, is made by the Electro-Medical Manufacturing Co. to doctors who wish to procure up-to-date galvanic and Faradic batteries. The batteries are put up in highly finished hard-wood cases; the switchboards are covered with polished hard rubber, and all metal parts are nickel-plated. A catalogue will be mailed upon receipt of two-cent stamp. For further details, see advertisement on page xiii of this issue.

◆

According to the Denver *Republican*, the physicians of Denver are opposed to the use of hypnotism, because its practice is likely to lead to an increase of hysteria and other nervous diseases. They are opposing its use in the State Home for Dependent Children.

NEWS

The Sacramento, Cal., Board of Health has prepared a special ordinance that compels undertakers and funeral directors to make all funerals private where death is due to a contagious disease. It is asserted that the board is determined upon enforcing the law at once.

The Maine Academy of Medicine and Science held its twentieth annual meeting at Portland on December 13. The attendance was large, the papers read interesting and the festivities very enjoyable. Dr. Wedgewood, of Lewiston, was elected president, and Dr. N. M. Marshall, of Portland, secretary.

A large number of the patients of the Epileptic Hospital at Gallipolis, O., were taken with severe symptoms resembling those of poisoning on December 1. Those attacked suffered excruciating pain, and for a long time pandemonium seemed to reign there. It was supposed to be due to poison administered by some enemy of the superintendent.

"Divine healing" and osteopathy are no longer legal in Iowa. The new law passed last Winter is about to be enforced by the State Board of Health. The osteopathic and vitopathic institutions of Des Moines have been notified to close. One of the conductors of the osteopathic institutions is a graduate of the homeopathic department of the State University.

Paterson, N. J., has been suffering from an epidemic of typhoid fever. The health-inspector declares he has traced its source to a creamery in Sussex County. Three members of the family owning this creamery were down with the disease when he visited the place, and the water used in washing the pails and pans came from a pipe in close contiguity with the closet.

Dr. John Guiteras, in a recent speech before the Pathological Society, of Philadelphia, said that the epidemic of yellow fever of 1897 in our Southern States came late and was very mild. He thought that the communities that failed to recognize the disease and called it dengue should be congratulated on their good fortune, but they are liable to secondary outbreaks next year.

The Board of Supervisors of Ulster County. New York, desires to abolish the office of Coroner and wishes the co-operation of all other counties in the State in getting rid of what they deem a useless and costly ornament. They have drawn up resolutions upon the matter, and sent them to the boards of supervisors of other counties, assemblymen, senators and the Governor of the State.

A debate on Vivisection was held before the Woman's Club at Unity Church, Denver, Col., on the evening of November 27, in which doctors and others took part. The antivivisectors were out in full force, and had the pleasure of being supported by the homeopathic physicians. The Denver *News* declares that "women grew pale with horror" at the descriptions of cruelty of the vivisectors.

The Colorado State Medical Association sent a delegation composed of Drs. Eskridge, Fisk, and Graham to the Mayor of Denver, requesting him to provide in his forthcoming appropriations for a liberal allowance toward the defraying of the expense for entertaining the American Medical Association at its next annual meeting. They stated that they expected an attendance of about 2,500 members and delegates.

Albert Temple, of Chicago, declares that a county physician, who had charge of his wife while suffering from pneumonia in the Cook County Hospital, had him sign a note for $75 for treatment. He was out of work and had no money. The president of the County Board says that if he finds the charge true or learns of any physician who takes money or notes from patients, he will discharge such offenders at once.

The newspapers of Albany, N. Y., are complaining that their Board of Health is very strict in compelling plumbers, milkmen, and other ordinary mortals to obey their rules while permitting doctors to go unnoticed who refuse to comply with the regulation that demands that they report cases of contagious diseases. The *Albany Express* thinks that when doctors are not in a majority in our Boards of Health all classes will be treated more nearly alike.

Dr. A. C. Buell, of Cleveland, O., threatens to bring suit against that city and its Board of Health for arresting him on the charge of failing to report the death of one of his patients. The doctor claims that he was not in the city when the woman died, and had not been for some days before. The president of the board had him arrested on the evidence of a burial certificate from an undertaker without making any enquiries about the matter.

The Board of Health of New York expect on January 1 to perfect arrangements for the care of some of the poor of the city who are suffering from pulmonary tuberculosis at Seton Hospital, on Spuyten Duyvil Parkway, near Kingsbridge station. There is only accommodation for from 150 to 175 patients, but it is expected by the board that they will be able to discharge their cases semi-annually, thus enabling them to provide for from 300 to 350 patients per year.

The Harvey Medical College, of Chicago, is being sued by Willard P. Case, one of its graduates, for $25,000 damages for supplying him with a diploma that is not recognized by the Indiana State Board of Examiners. The college authorities claim that it is his own fault that he has such a diploma, as all their graduates except Case have diplomas that are recognized. His was issued when the school was not recognized, but an opportunity was given him to take up the missing time and studies necessary to gain full recognition, and he refused to do so.

Health Commissioner Starkloff, of St. Louis, Mo., presented the following resolution to the Health Board of that city at a recent meeting wherein it was adopted: Resolved, "That the Health Department, recognizing the danger of infection by the use in common by school children of lead pencils, penholders, etc., which are gathered at night and distributed the next day following to other pupils, and the pencil finds its way to the mouths of scores of children, and in view of the fact that there is a large number of cases of diphtheria now in the city, recommend as a sanitary measure to the Board of Public Schools and managers of the parochial schools that where such a system exists, it be discontinued." Before being adopted it was amended by motion of Dr. C. H. Hughes to include the condemnation of free books that are passed from one child to another. It was thought that the books should be given outright to the children.

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